

10' →  
MONITORING SYSTEM  
(FIRST EMBODIMENT)

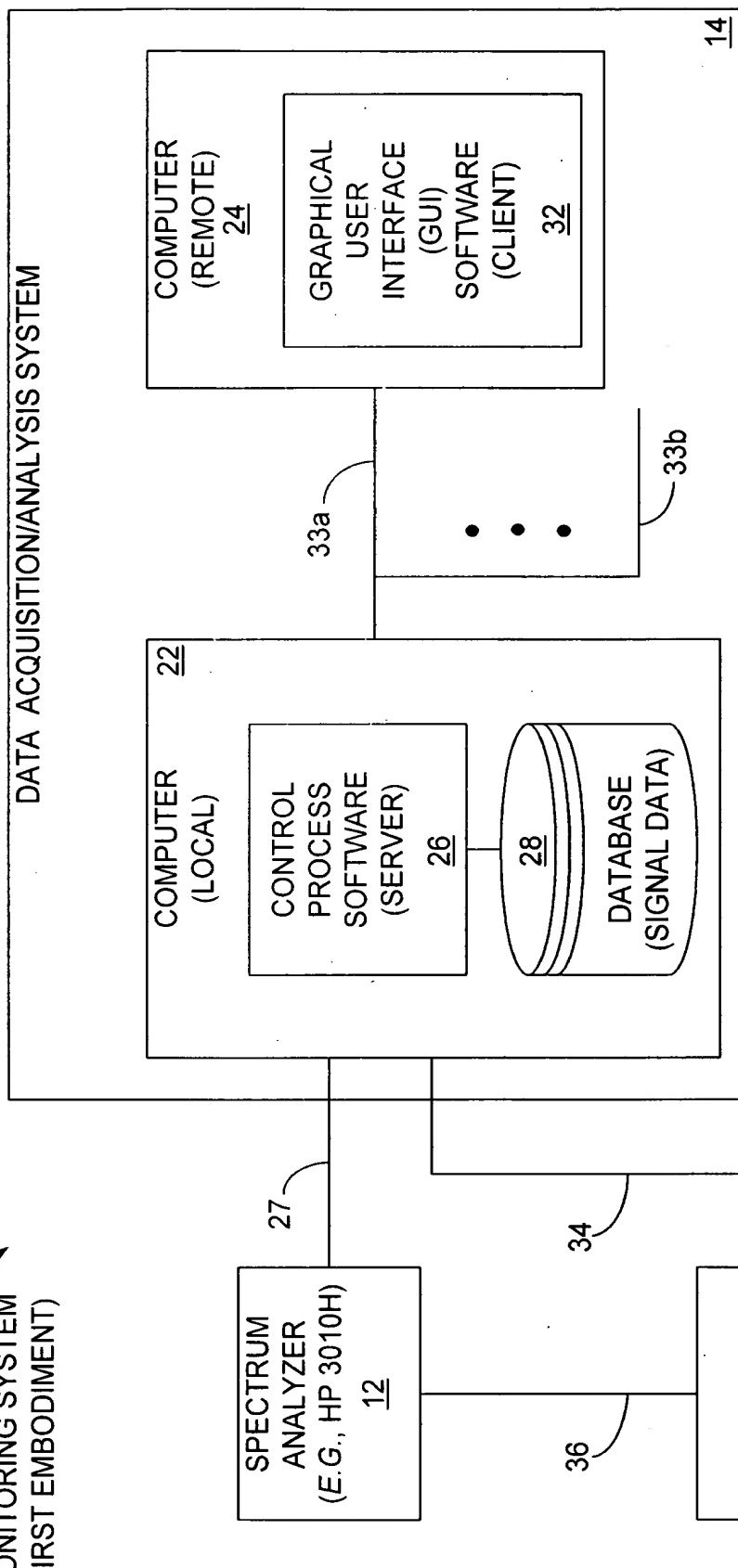


FIG. 1A

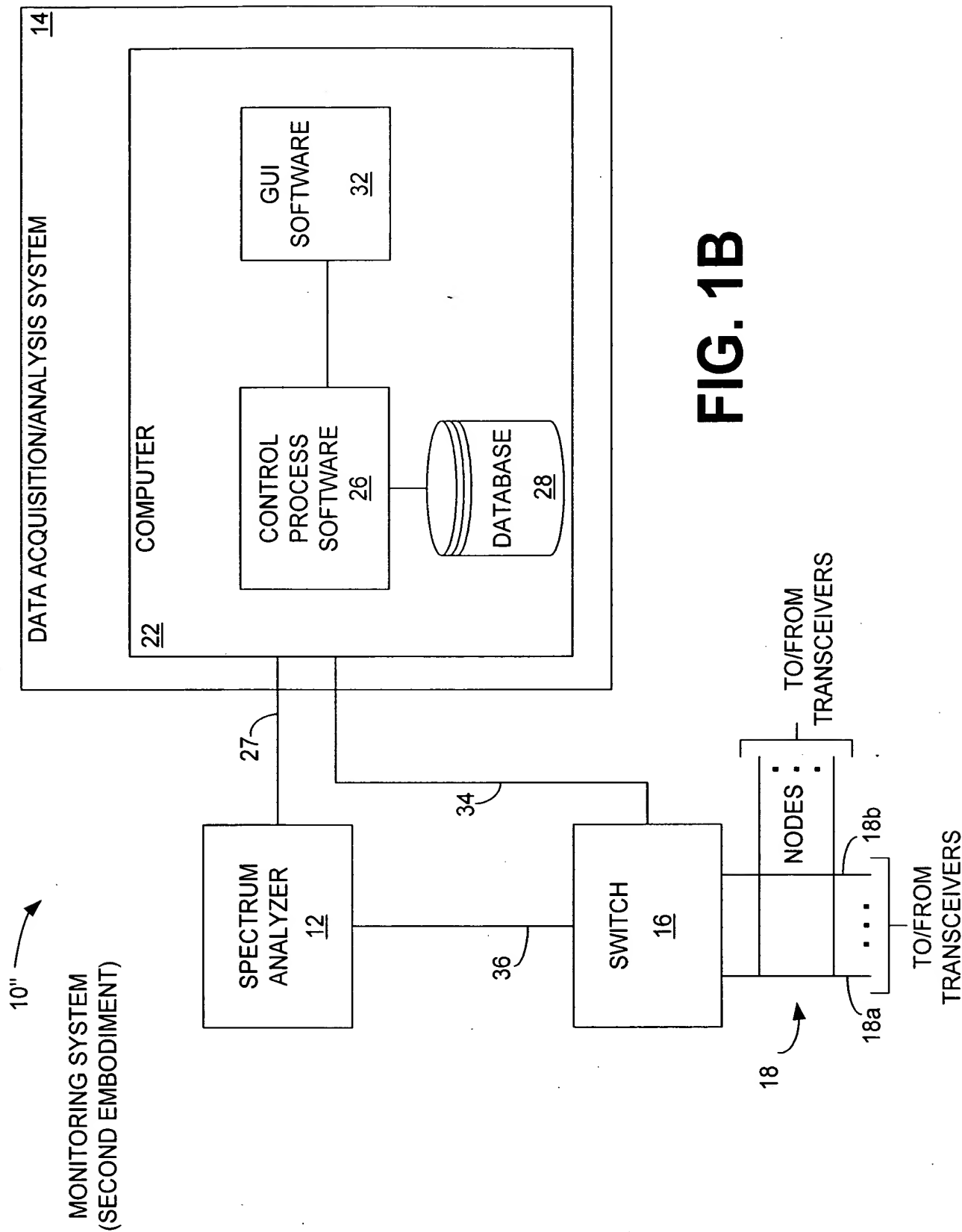
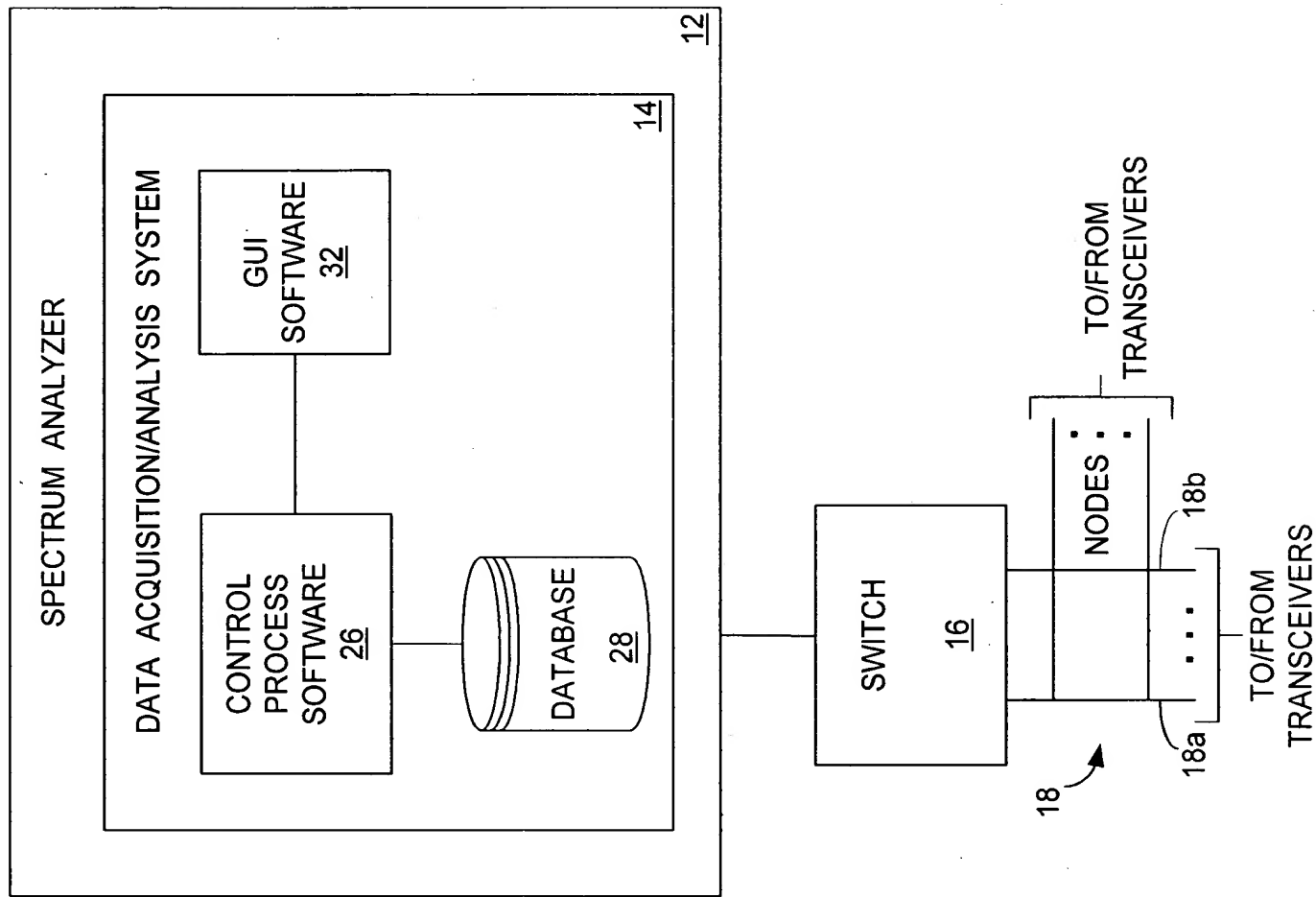


FIG. 1B



MONITORING SYSTEM  
(THIRD EMBODIMENT)

FIG. 1C

# DATA STRUCTURE OF DATABASE

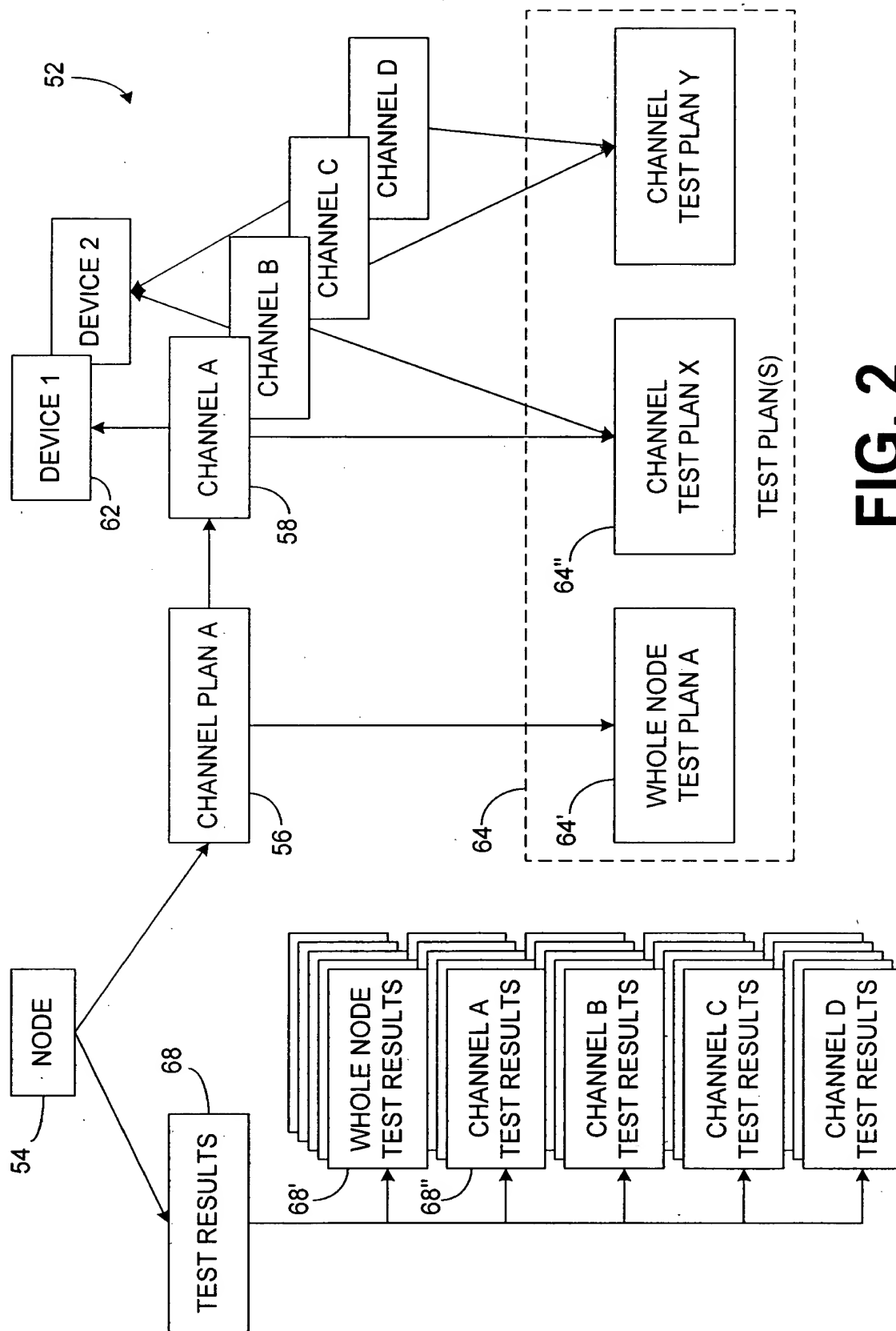


FIG. 2

# CHANNEL PLAN

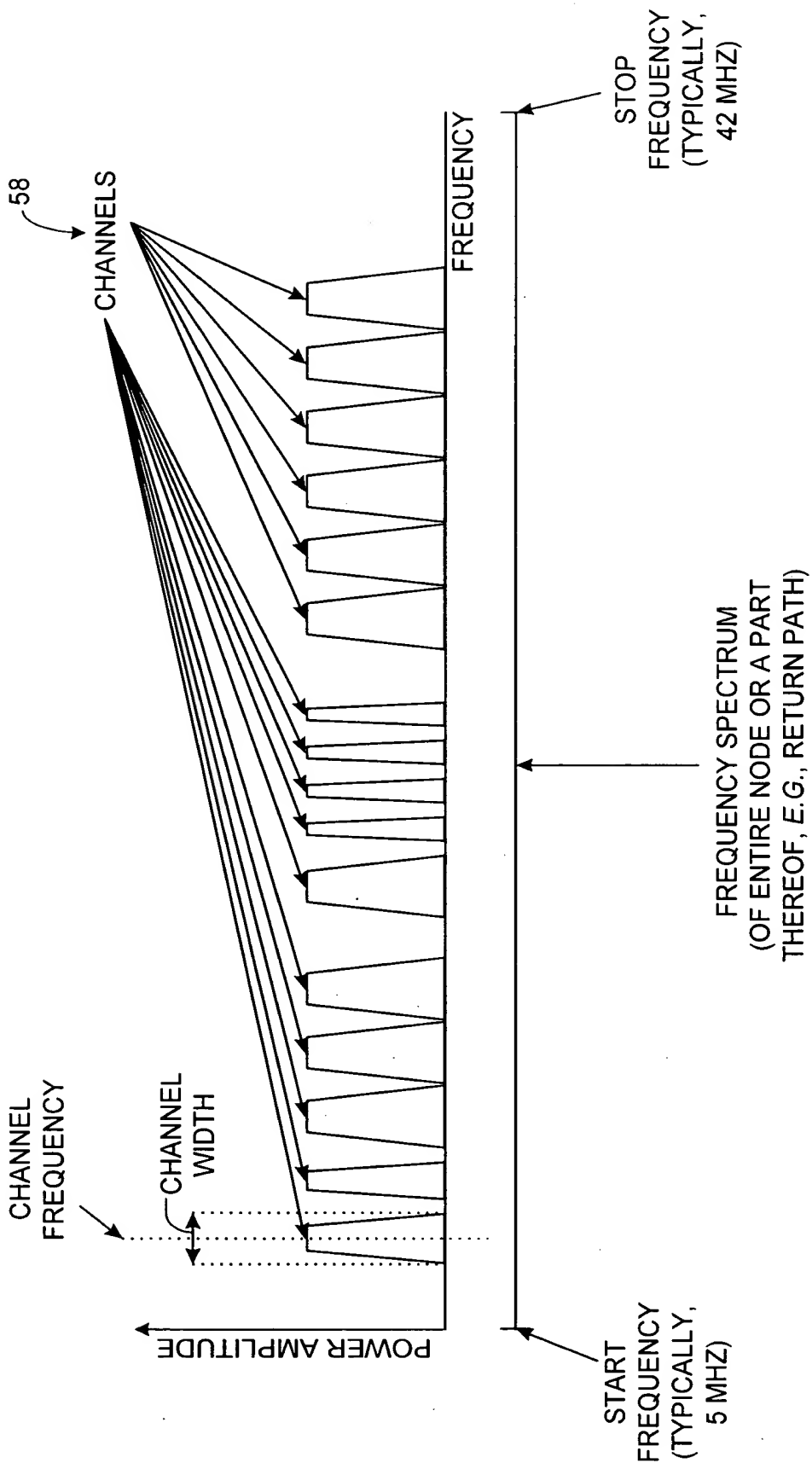
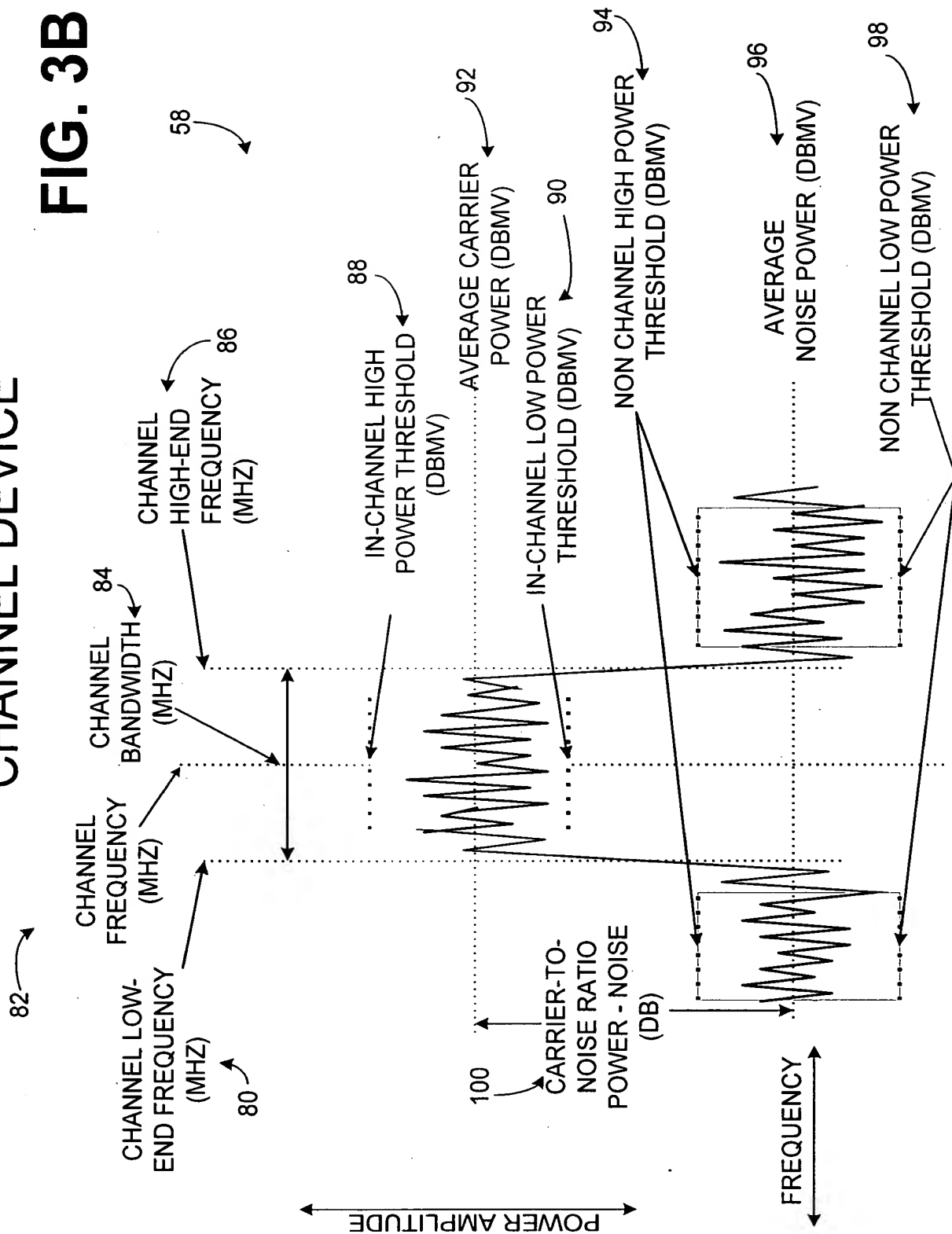


FIG. 3A

# CHANNEL DEVICE

FIG. 3B



# TEST PLAN

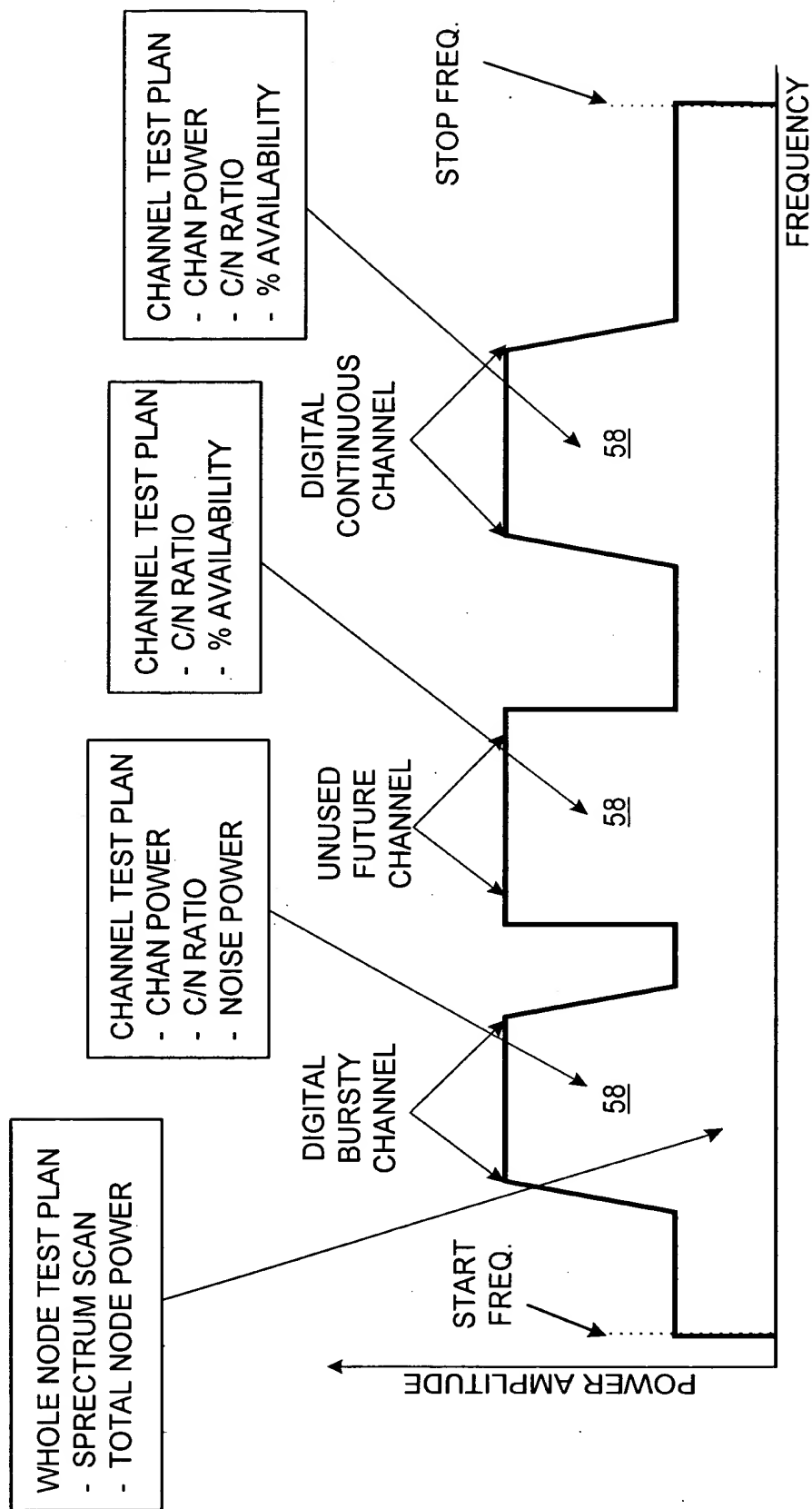


FIG. 3C

# SPECTRUM SCAN TEST (WHOLE NODE)

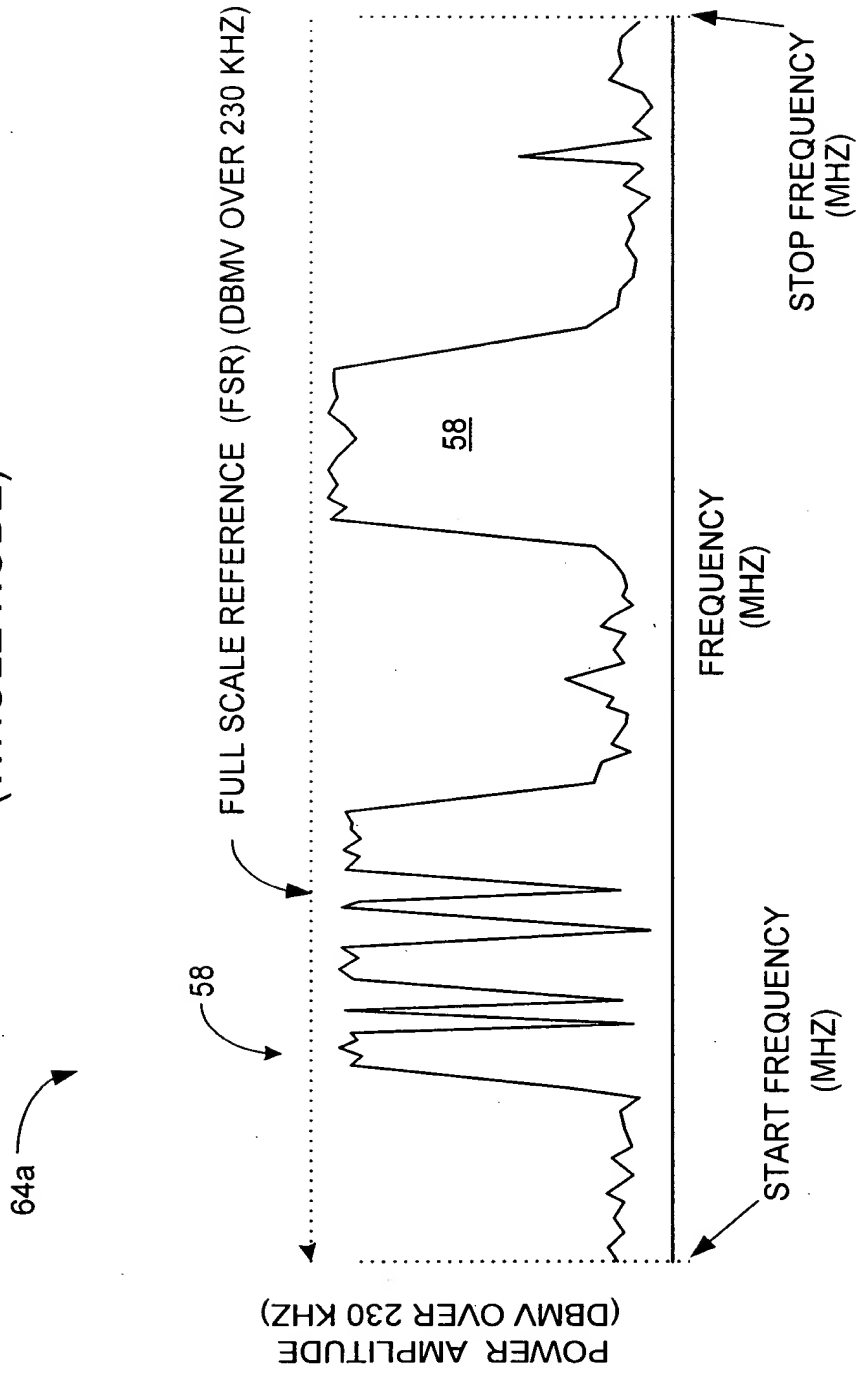


FIG. 3D



# SPECTRUM SCAN TEST (ALARM LIMITS)

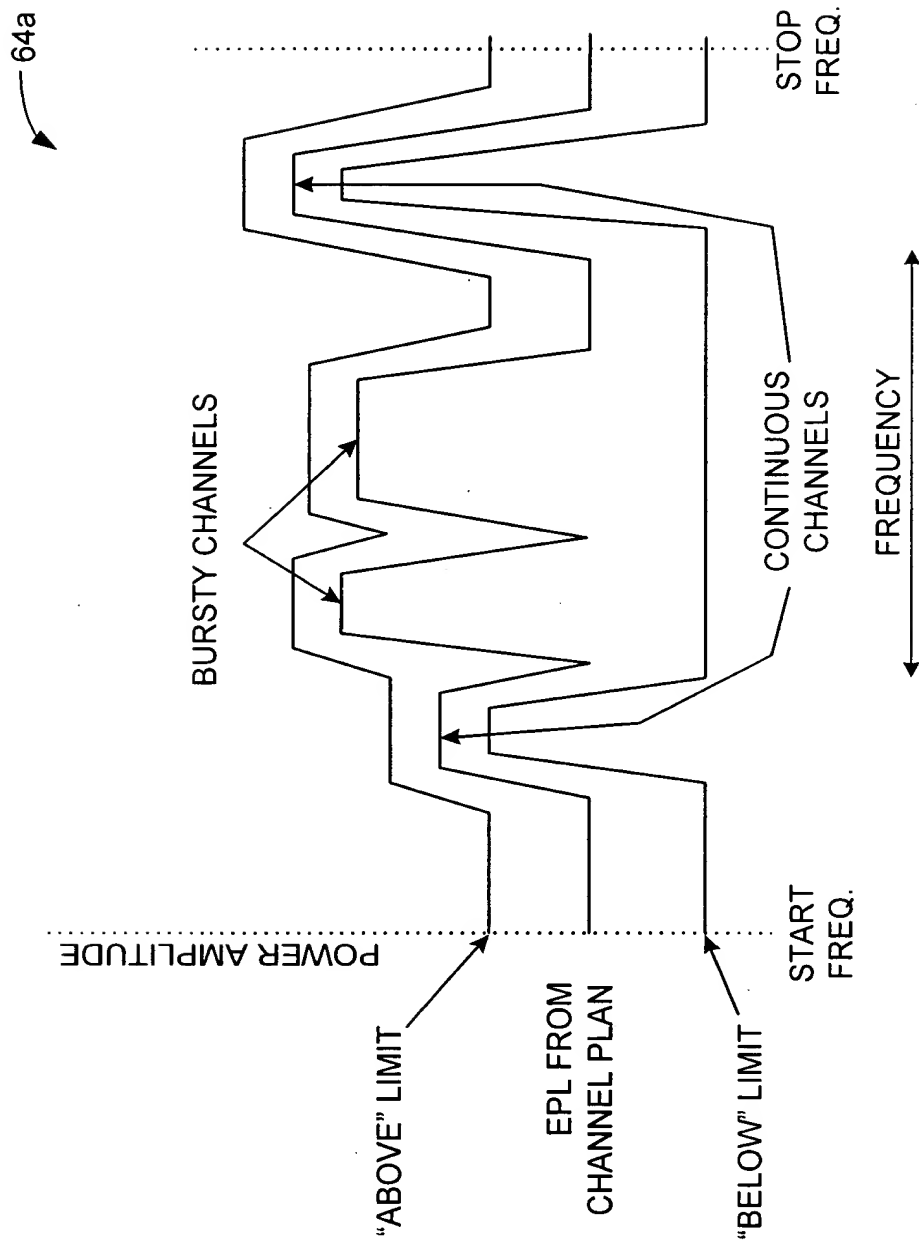


FIG. 3E

# TOTAL NODE POWER TEST (WHOLE NODE)

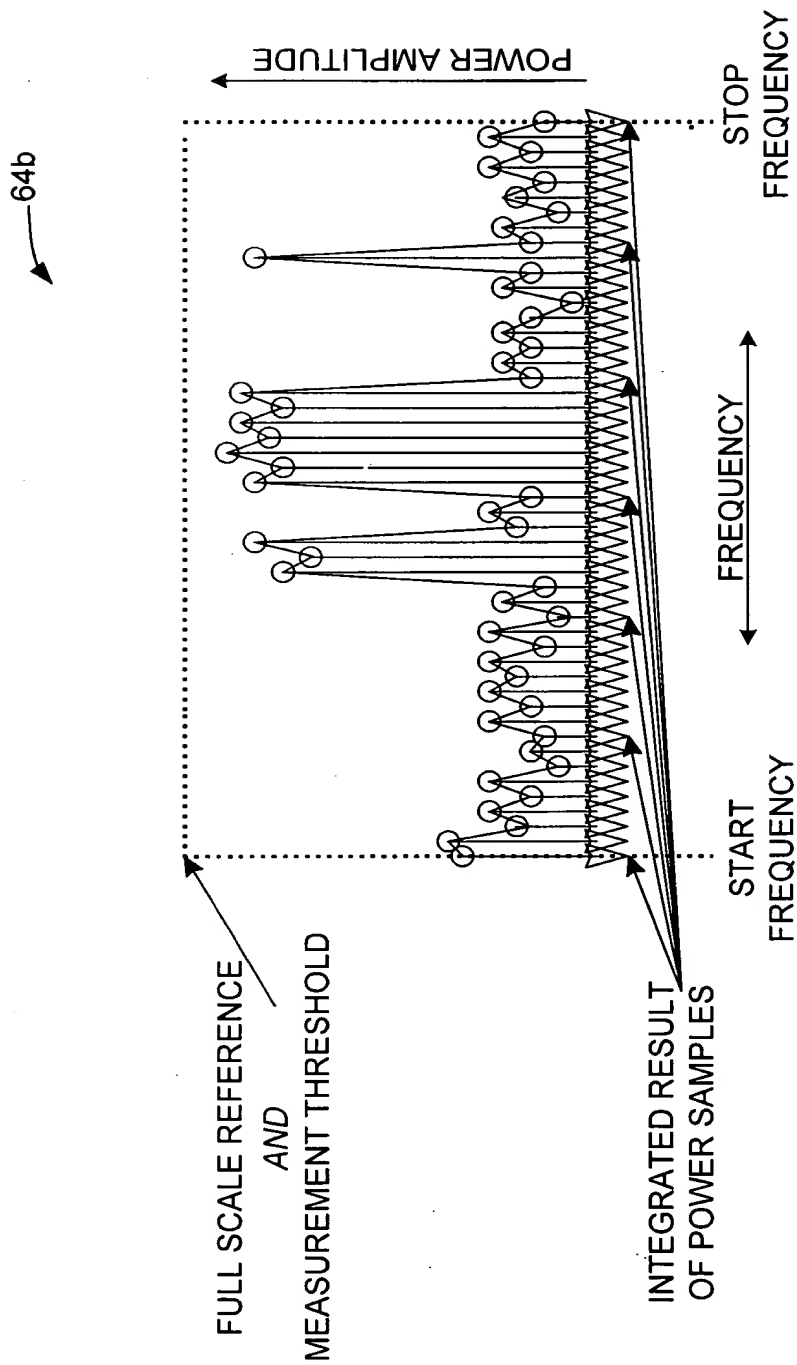


FIG. 3F

# AVERAGE NOISE POWER TEST (CHANNEL)

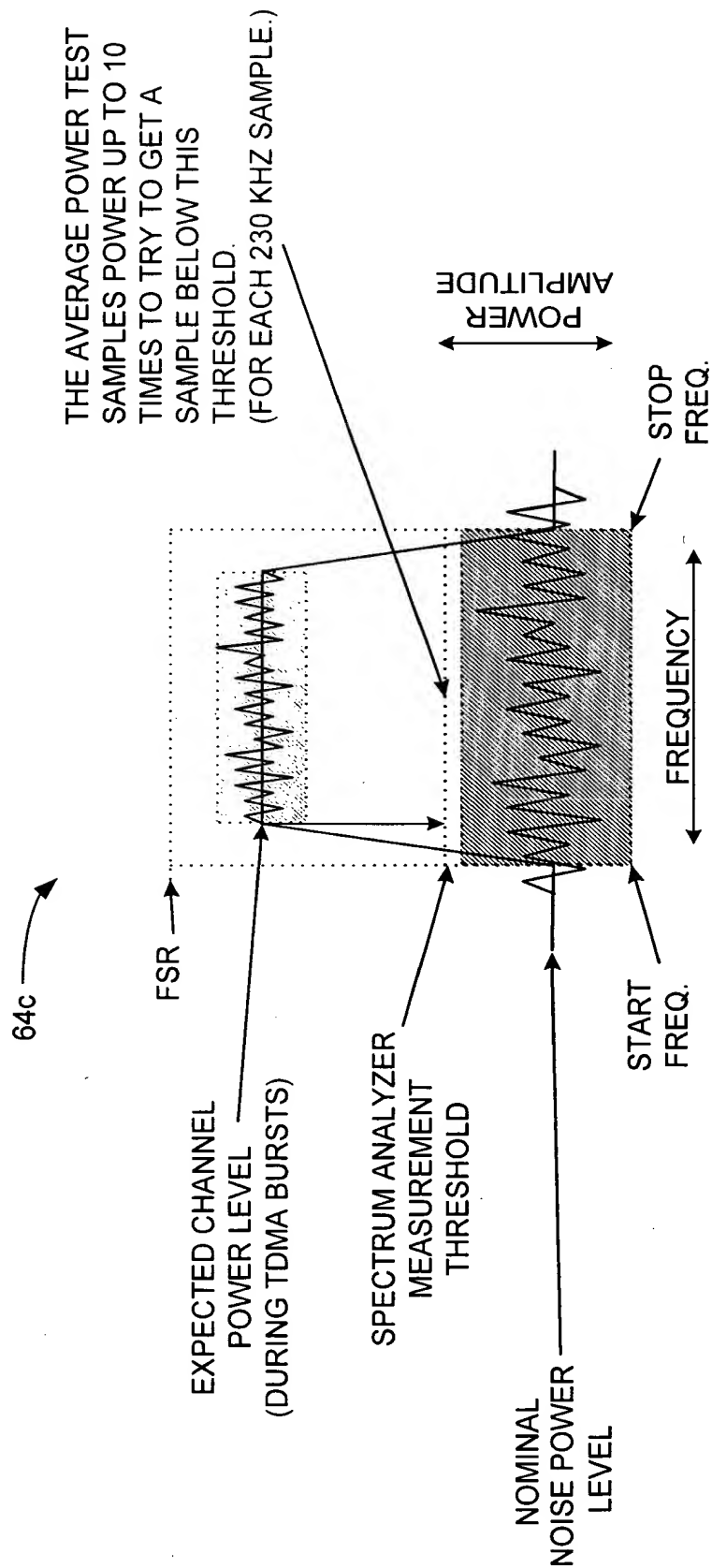


FIG. 3G

# AVERAGE NOISE POWER TEST (ALARM LIMITS)

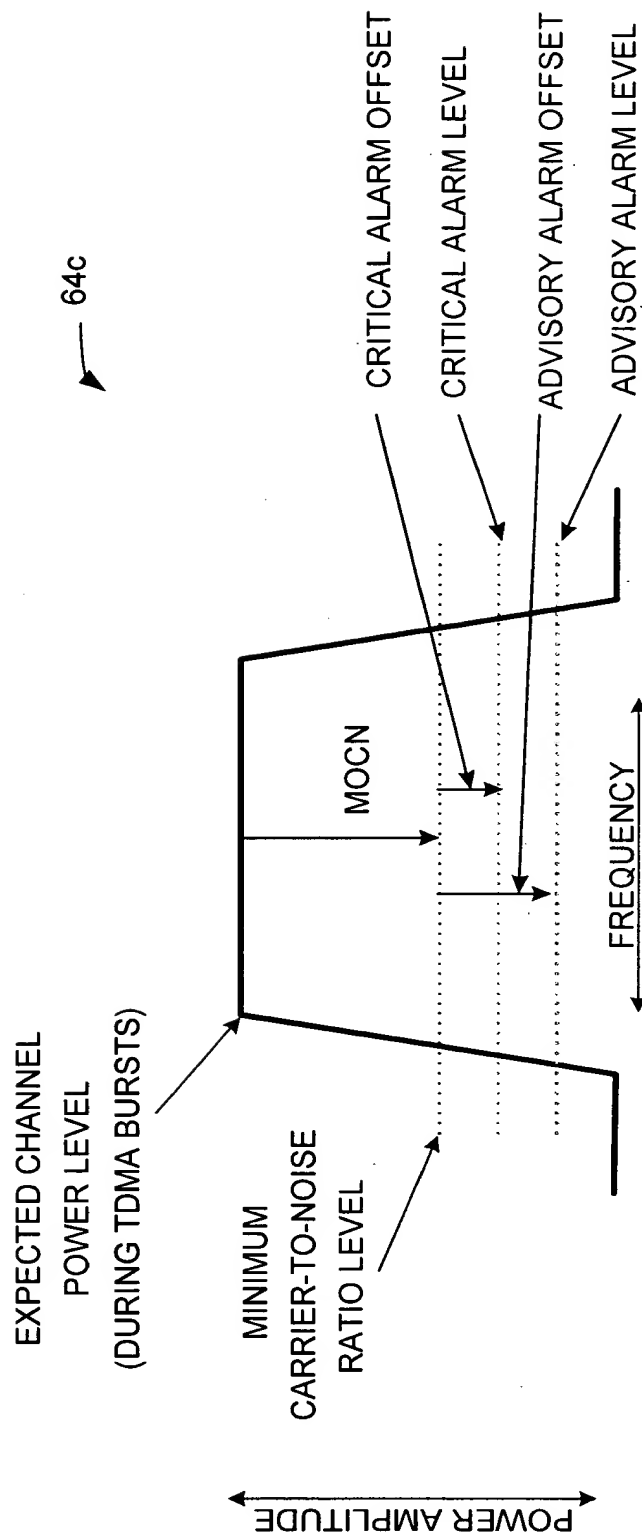


FIG. 3H

# CHANNEL POWER TEST (CHANNEL)

64d

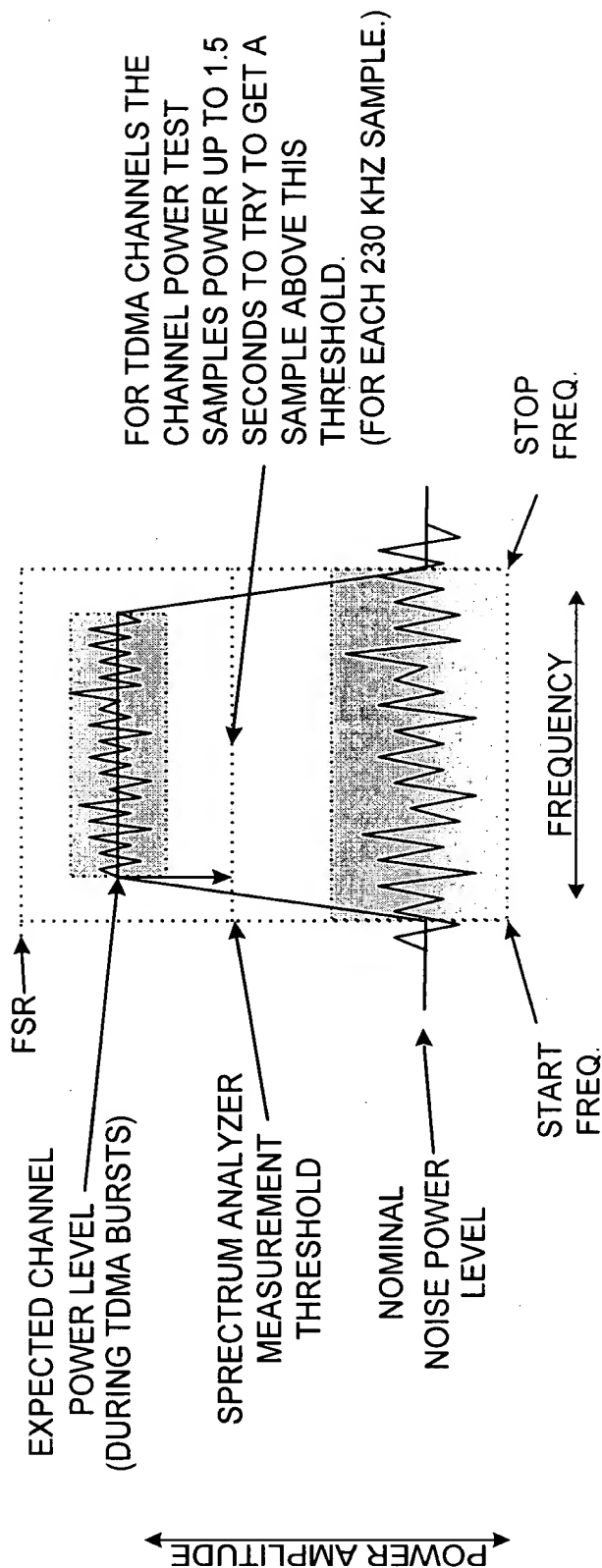


FIG. 31

# CHANNEL POWER TEST (ALARM LIMITS)

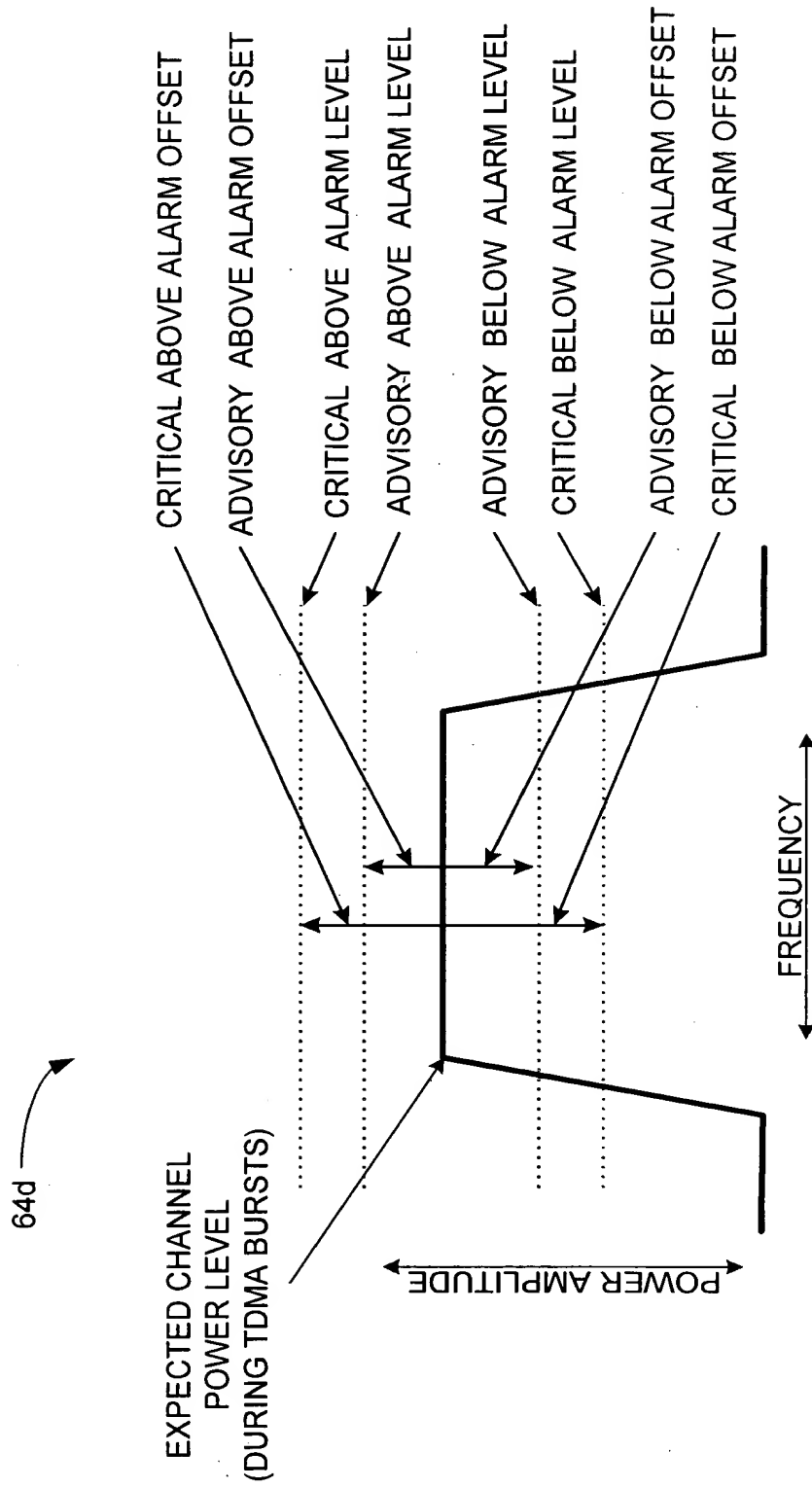


FIG. 3J

# CHANNEL POWER TEST (TDMA BURSTS)

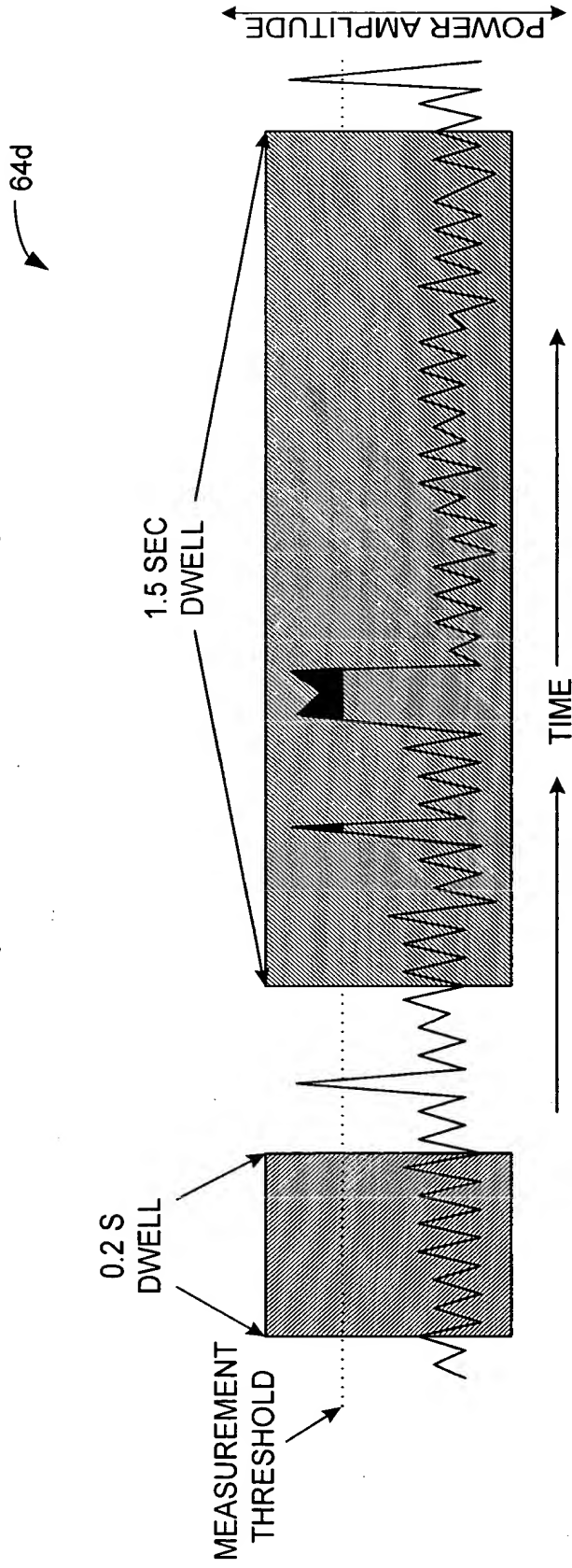


FIG. 3K

# C/N TEST (CHANNEL)

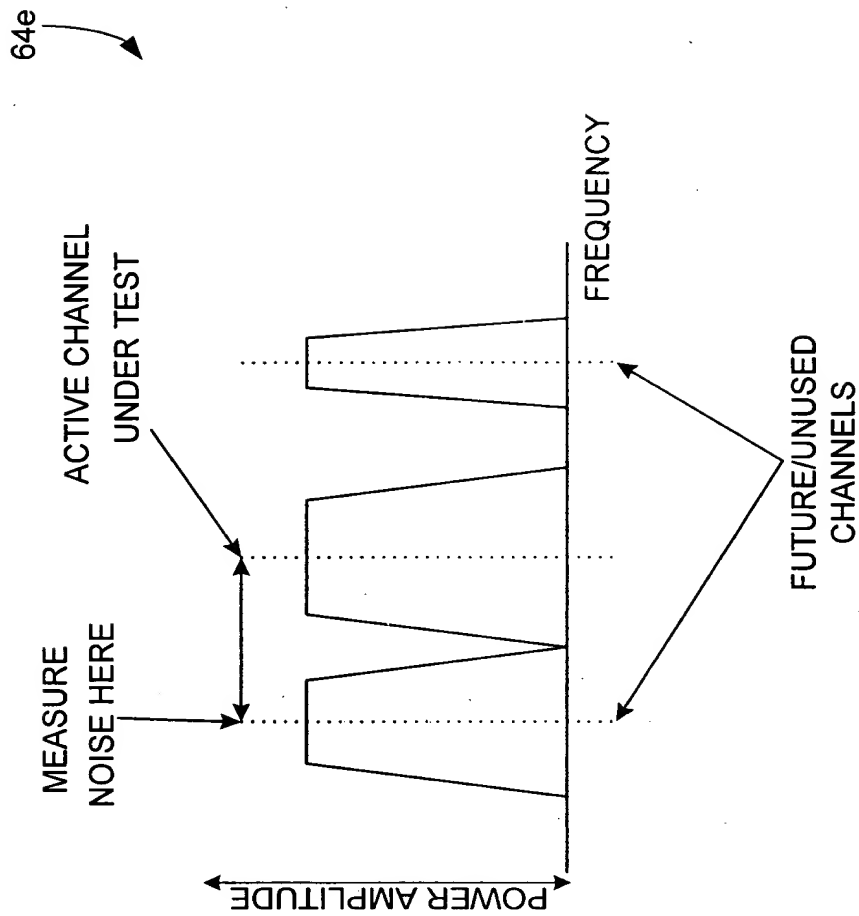
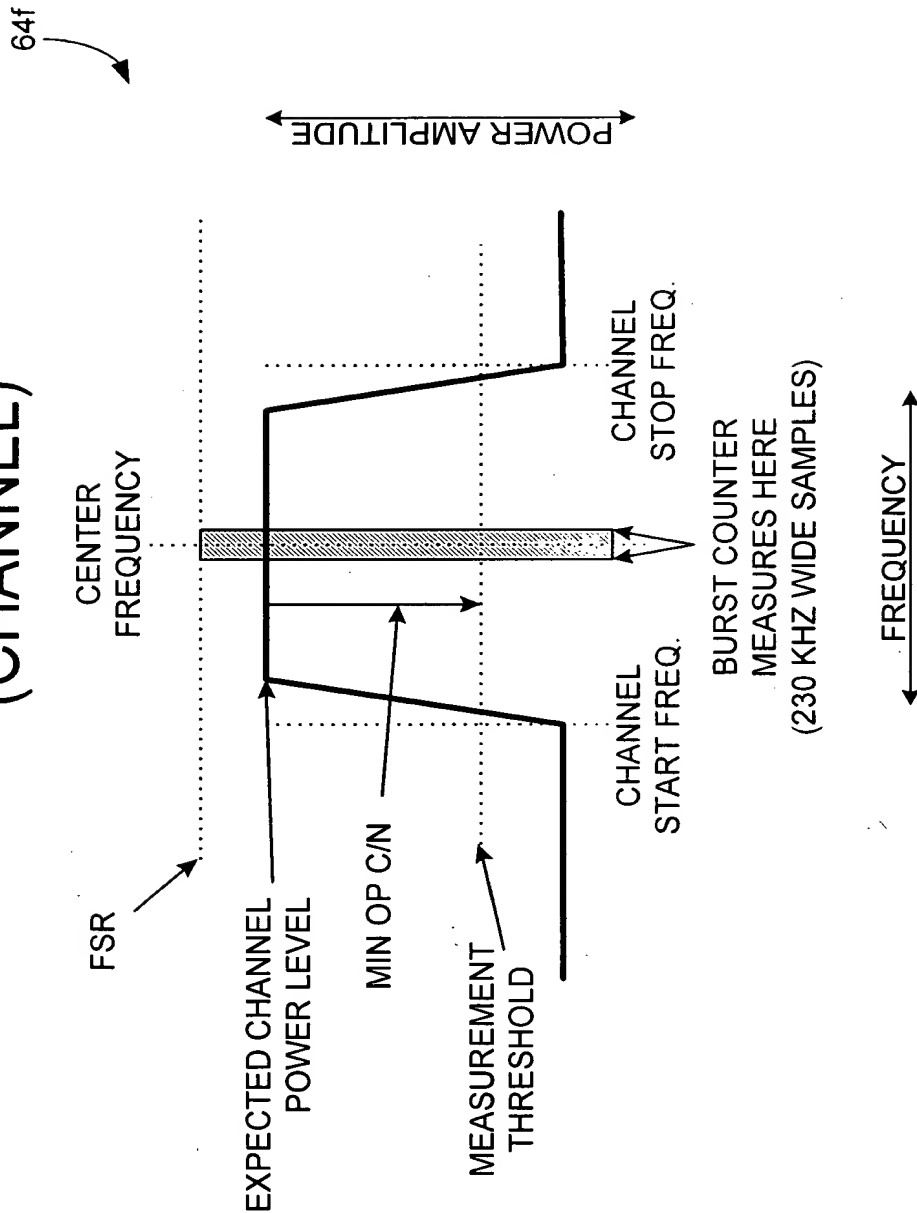


FIG. 3L



# BURST COUNTER TEST (CHANNEL)



**FIG. 3M**

# PERCENT AVAILABILITY TEST (CHANNEL)

64g

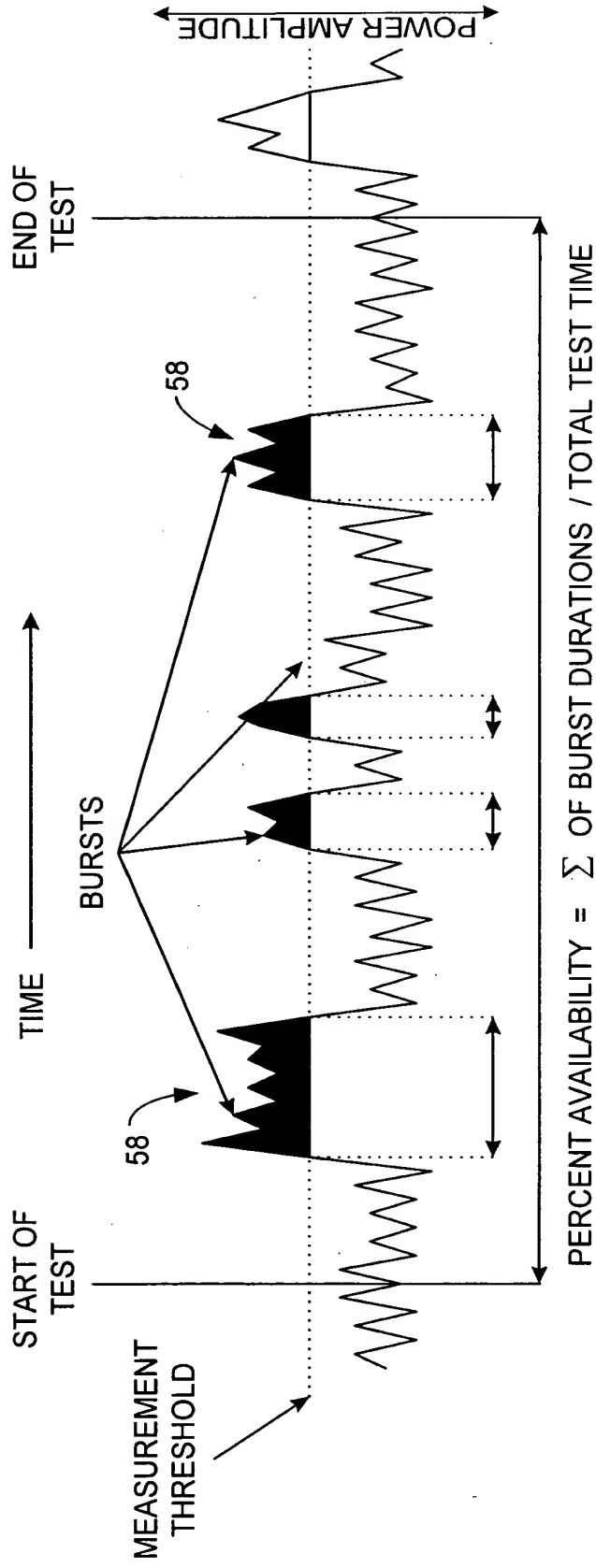
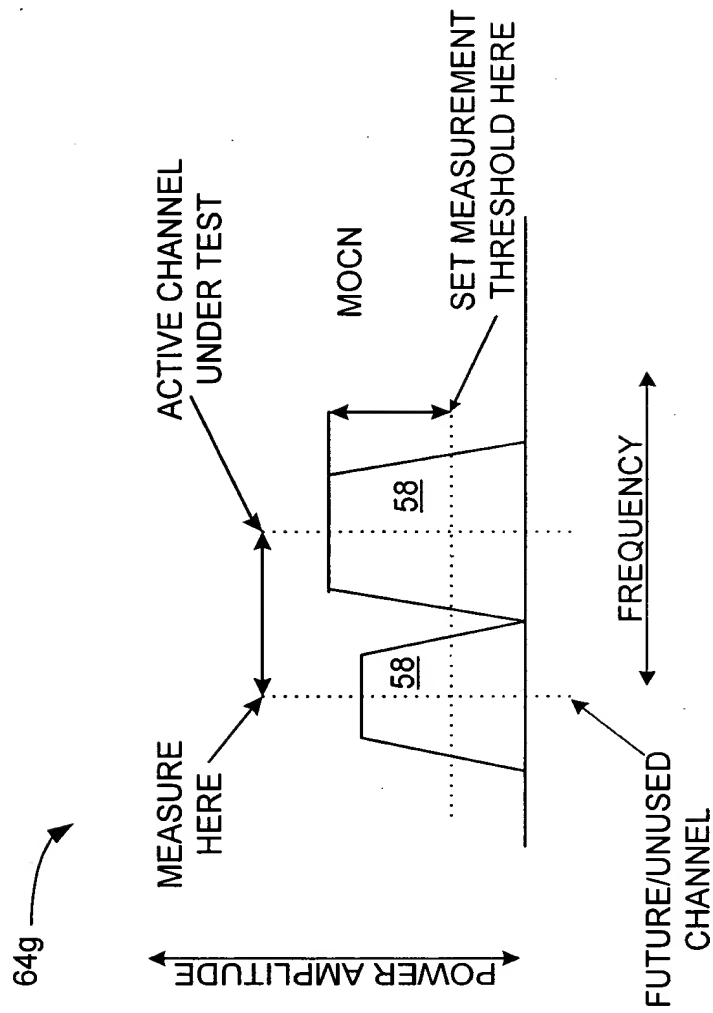


FIG. 3N

## PERCENT AVAILABILITY TEST (ACTIVE CHANNELS)



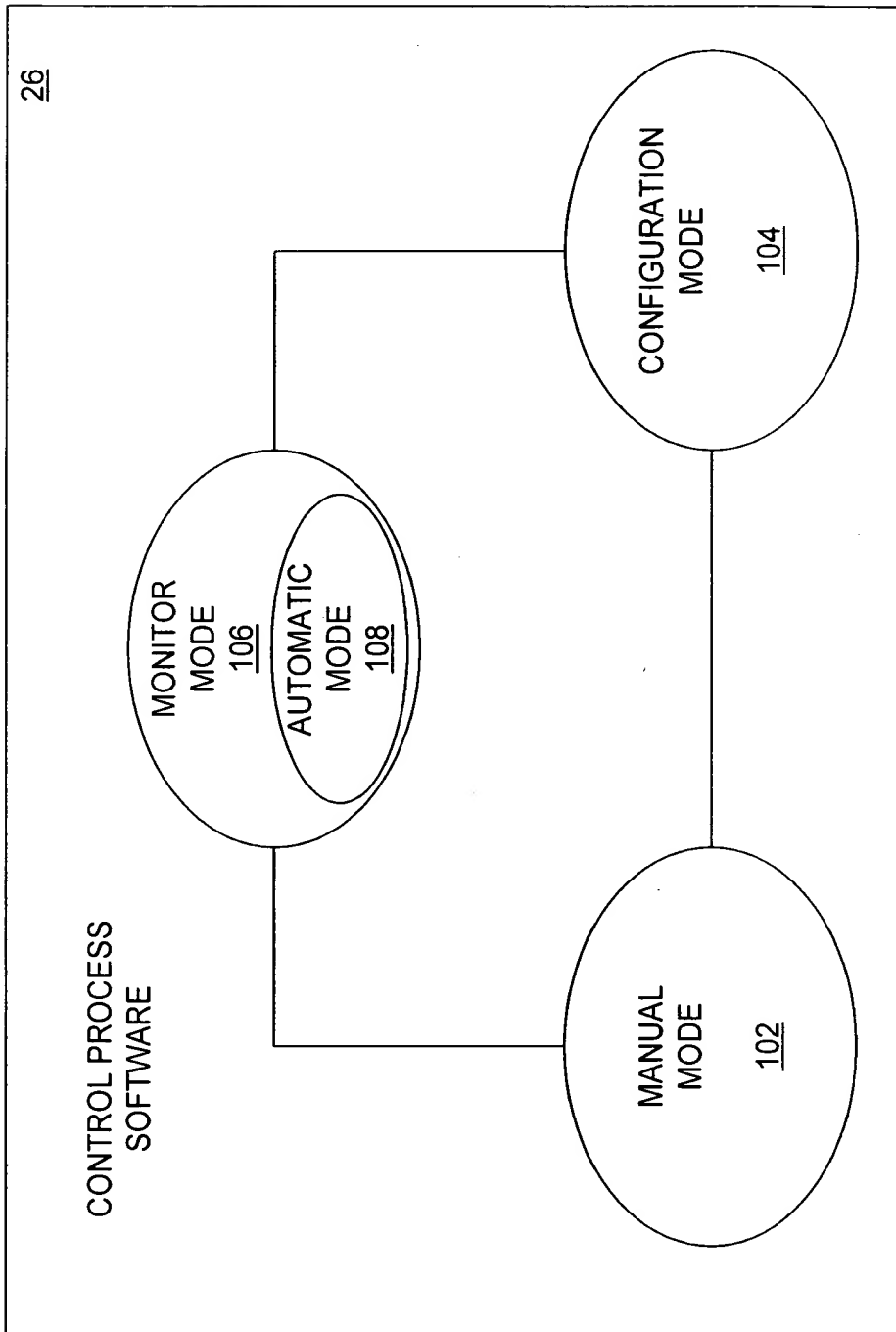
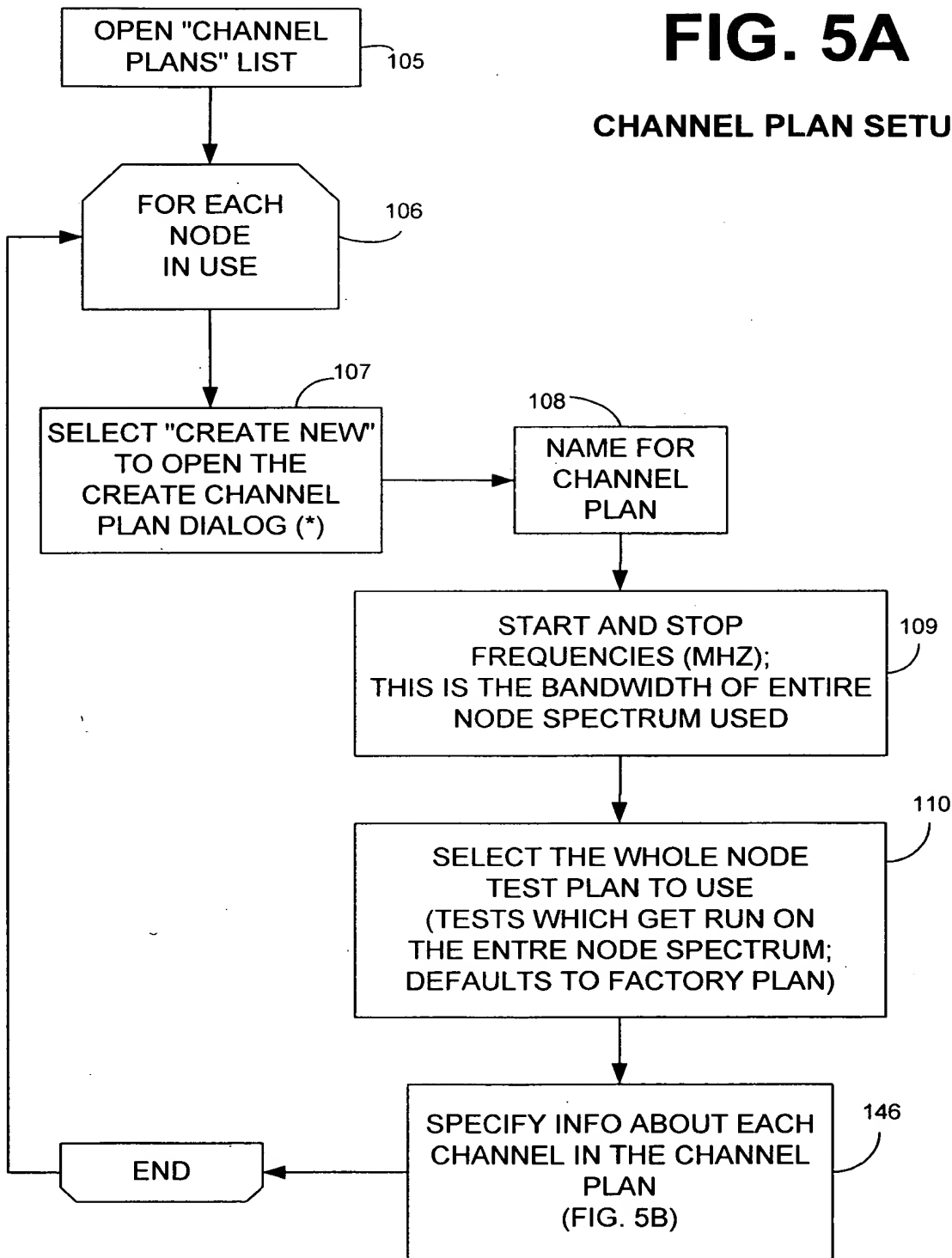


FIG. 4

**FIG. 5A**

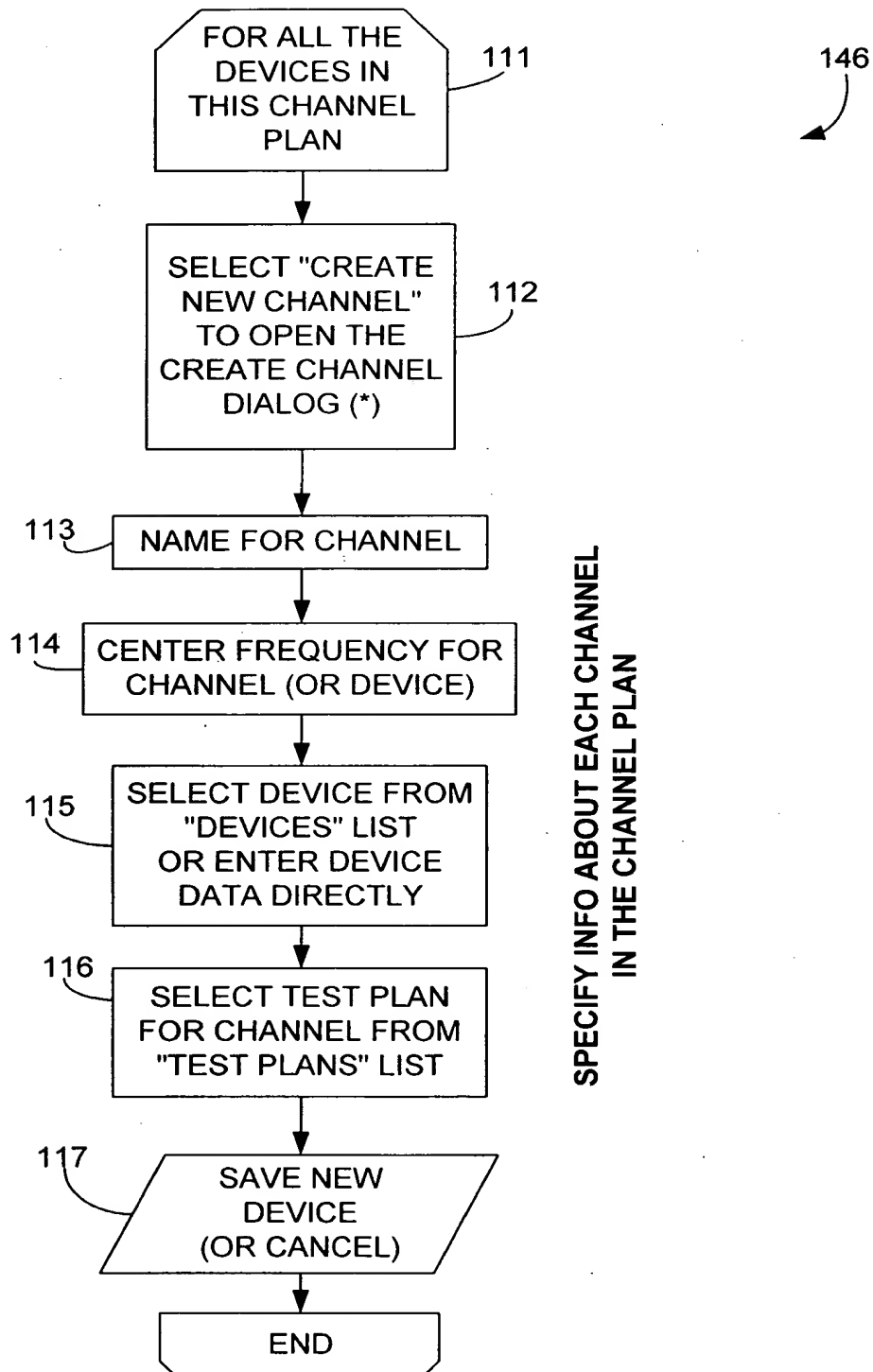
**CHANNEL PLAN SETUP**



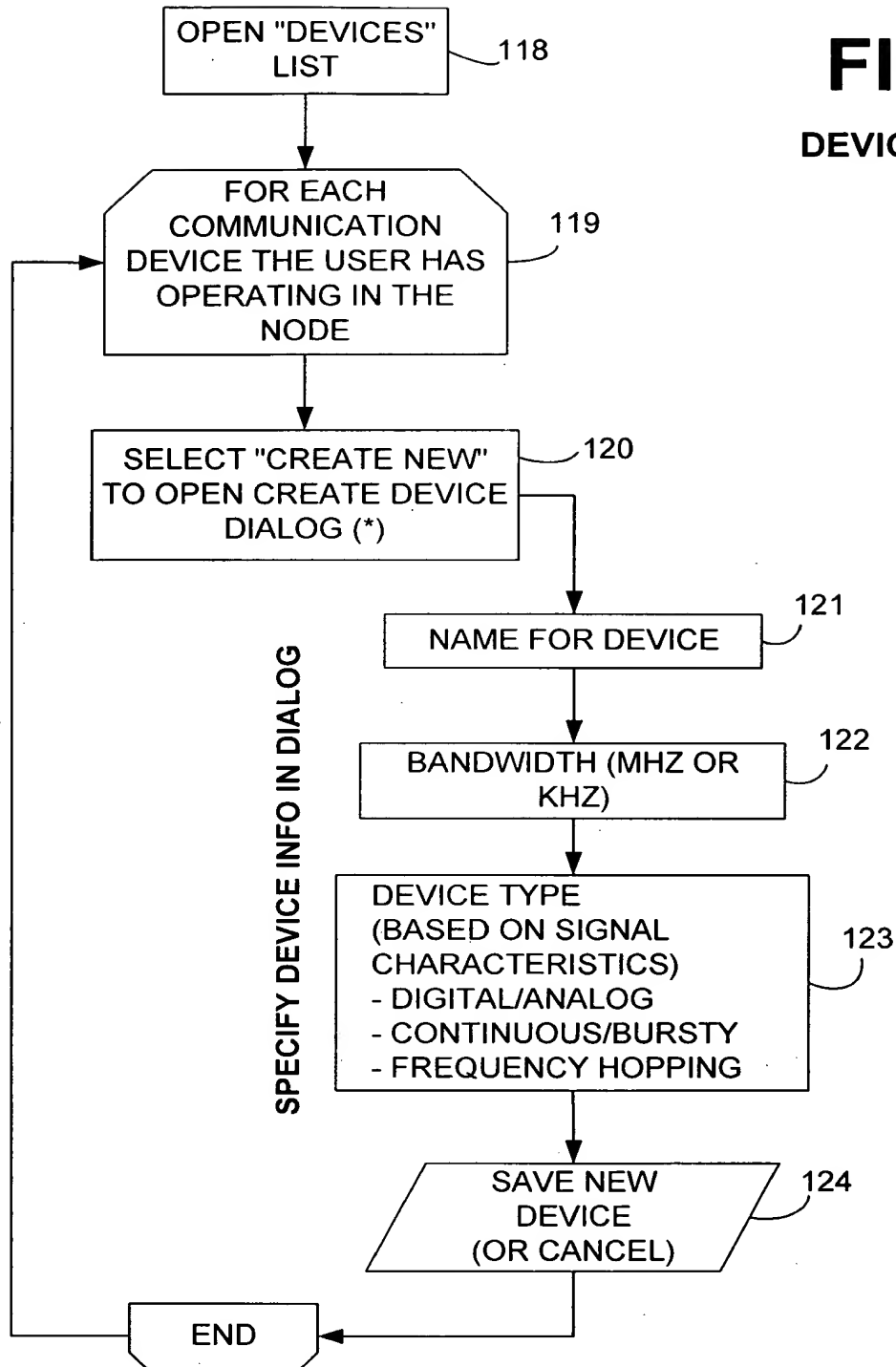
SPECIFY GENERAL INFO ABOUT CHANNEL PLAN

# FIG. 5B

## CHANNEL PLAN SETUP (CONTINUED)



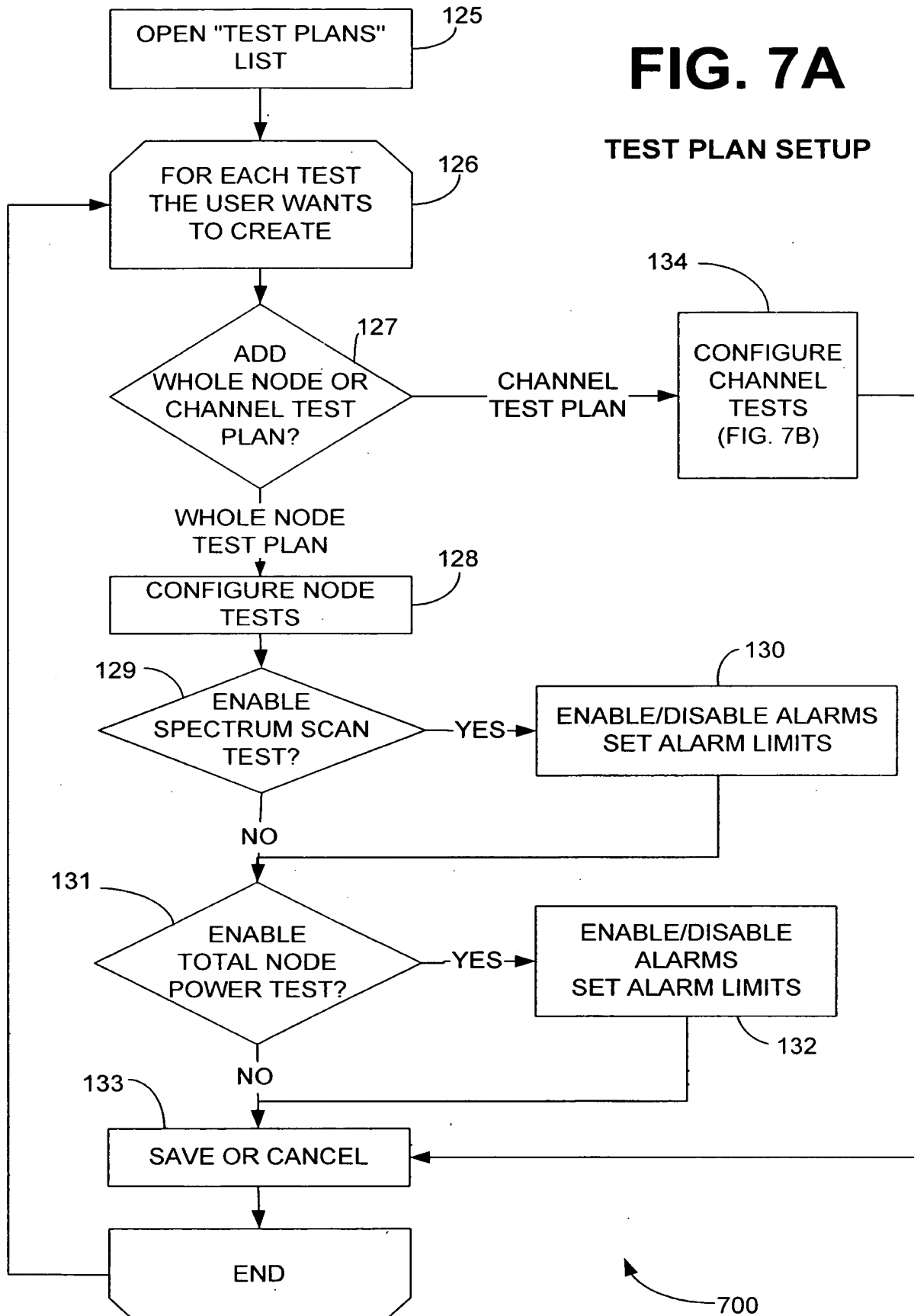
**FIG. 6**  
**DEVICE SETUP**



\* NOTE: DEVICE LIST DIALOG ALSO  
ALLOWS USER TO EDIT OR DELETE  
DEVICES.

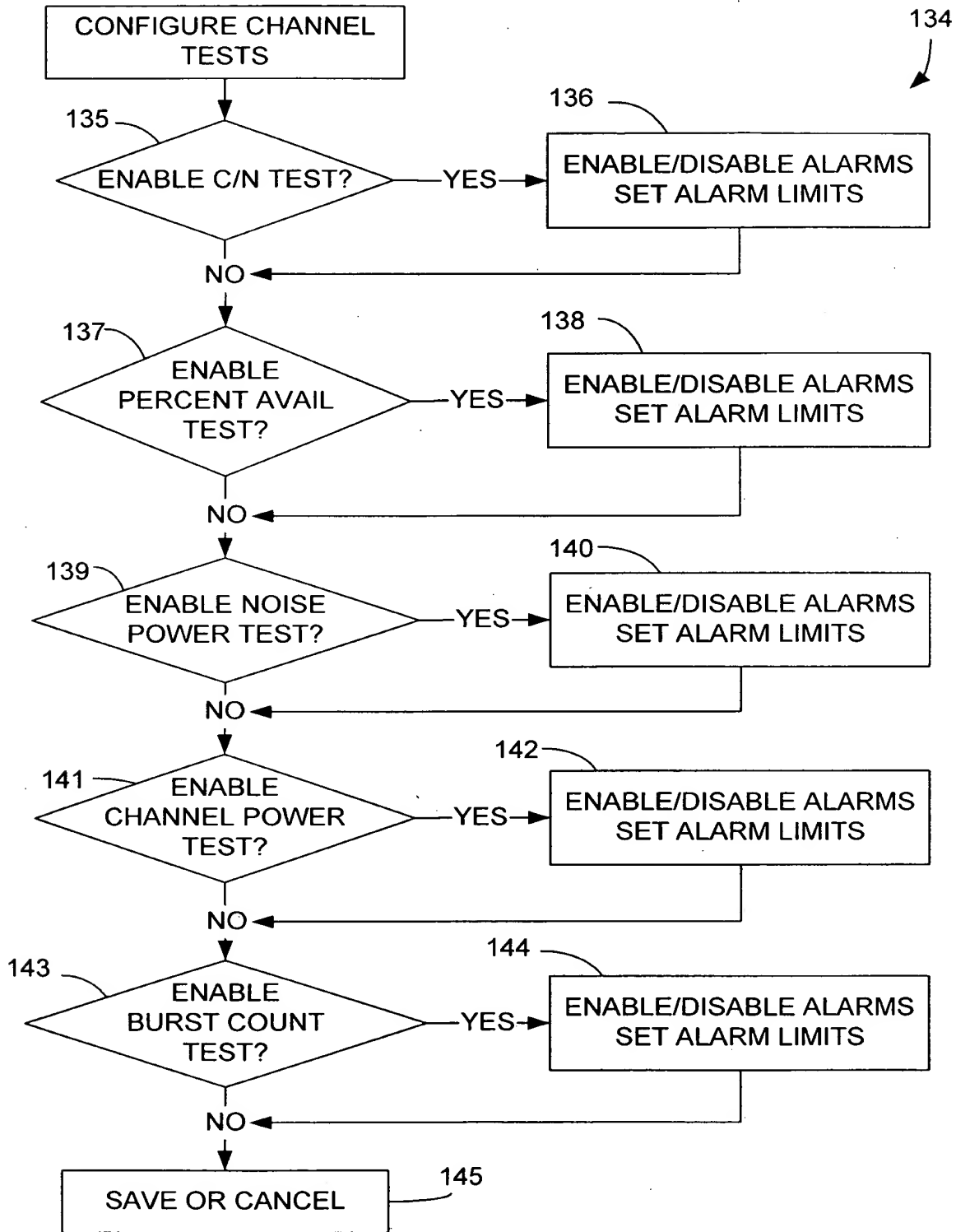
# FIG. 7A

## TEST PLAN SETUP



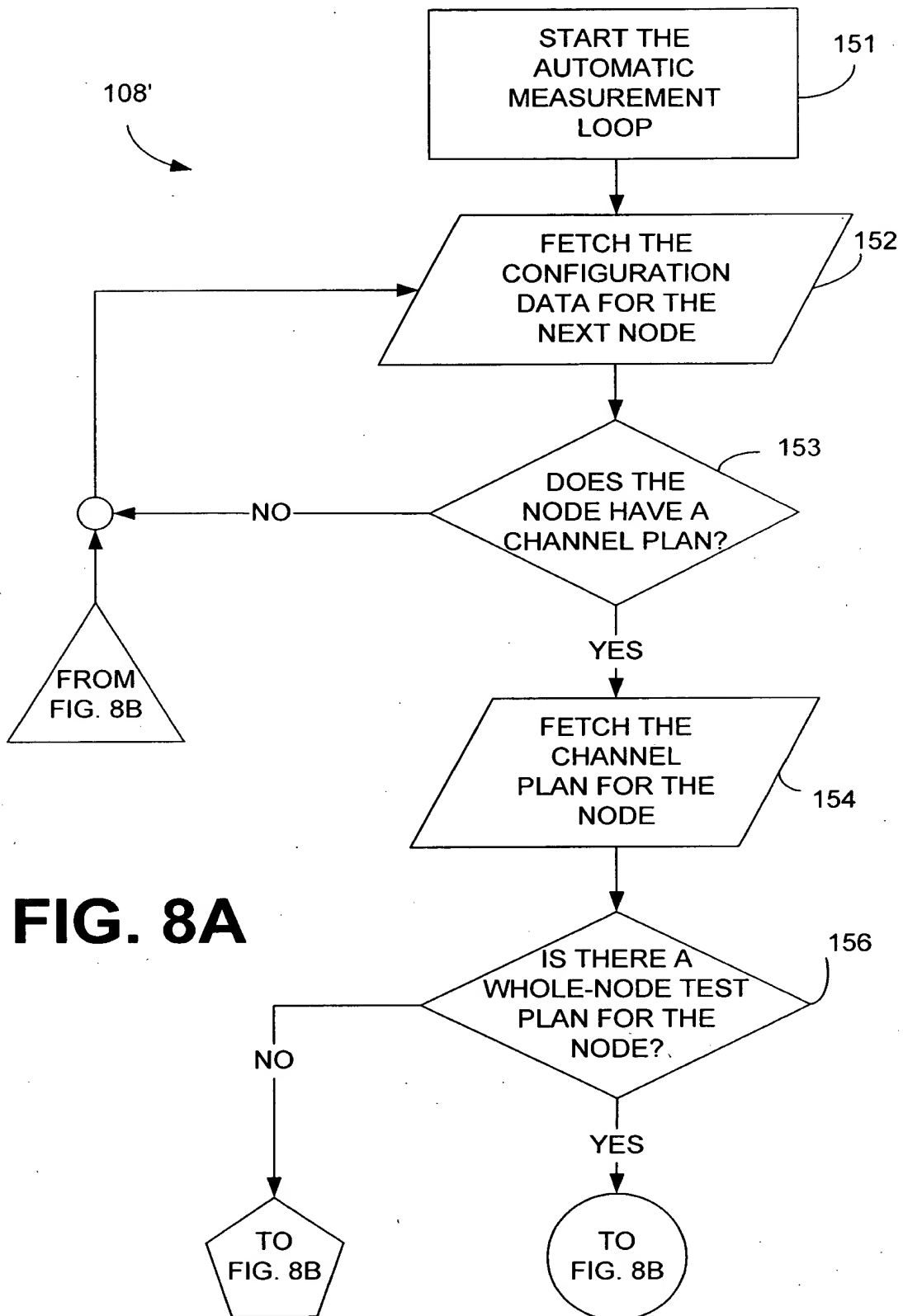


## TEST PLAN SETUP (CONTINUED)

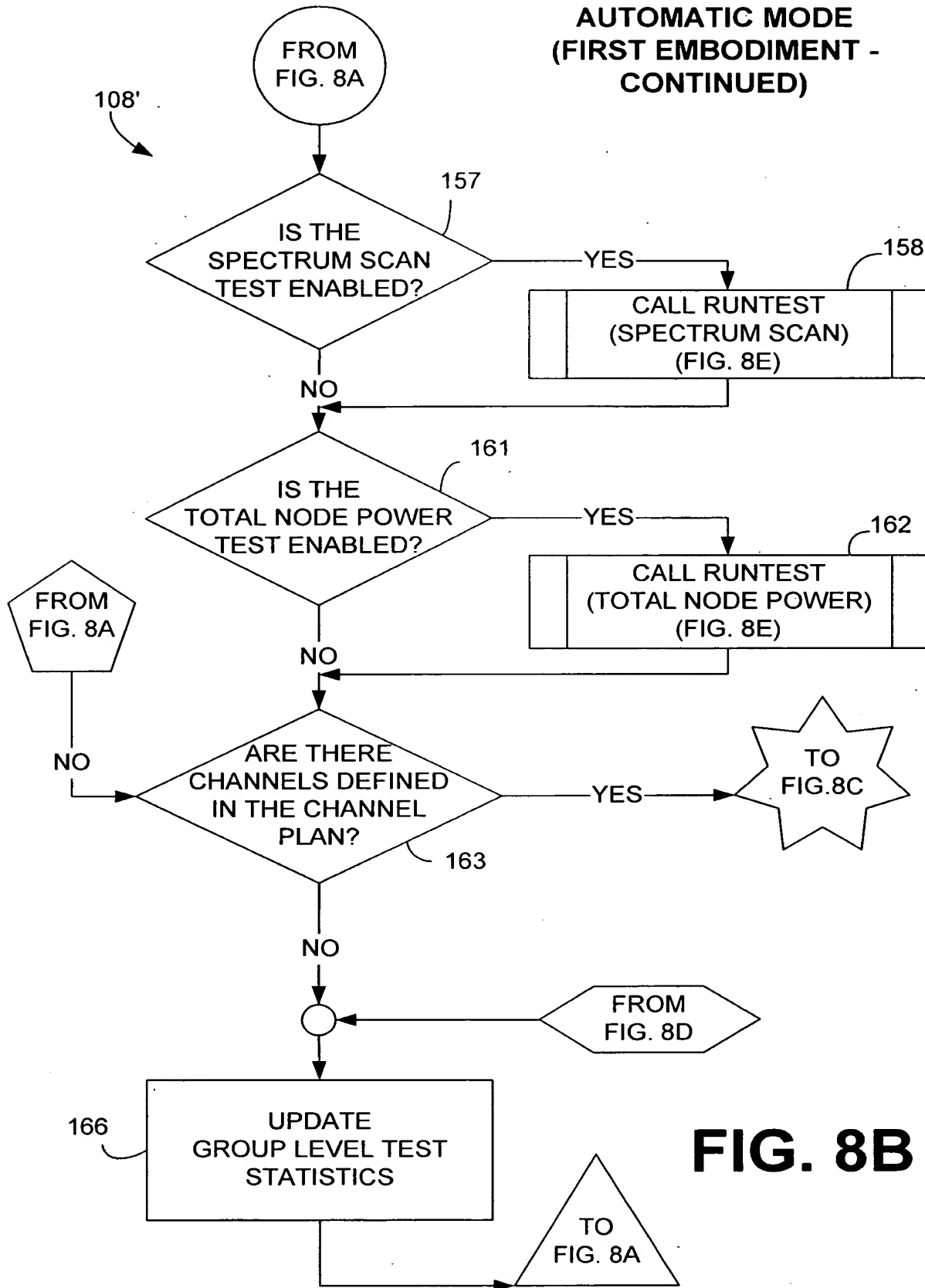


**FIG. 7B**

**AUTOMATIC MODE  
(FIRST EMBODIMENT; EMPLOYS ROUND ROBIN ALGORITHM)**

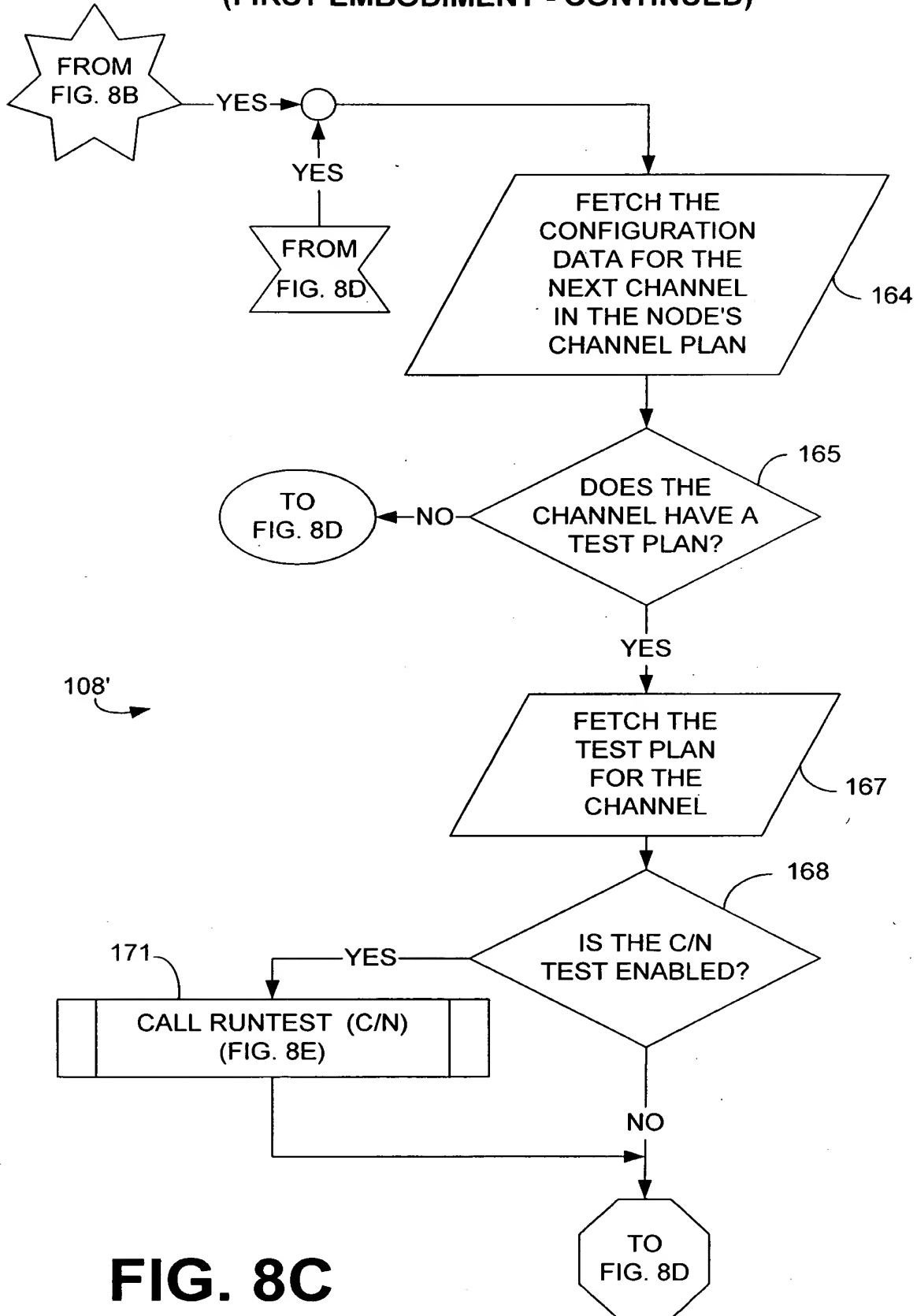


**AUTOMATIC MODE  
(FIRST EMBODIMENT -  
CONTINUED)**



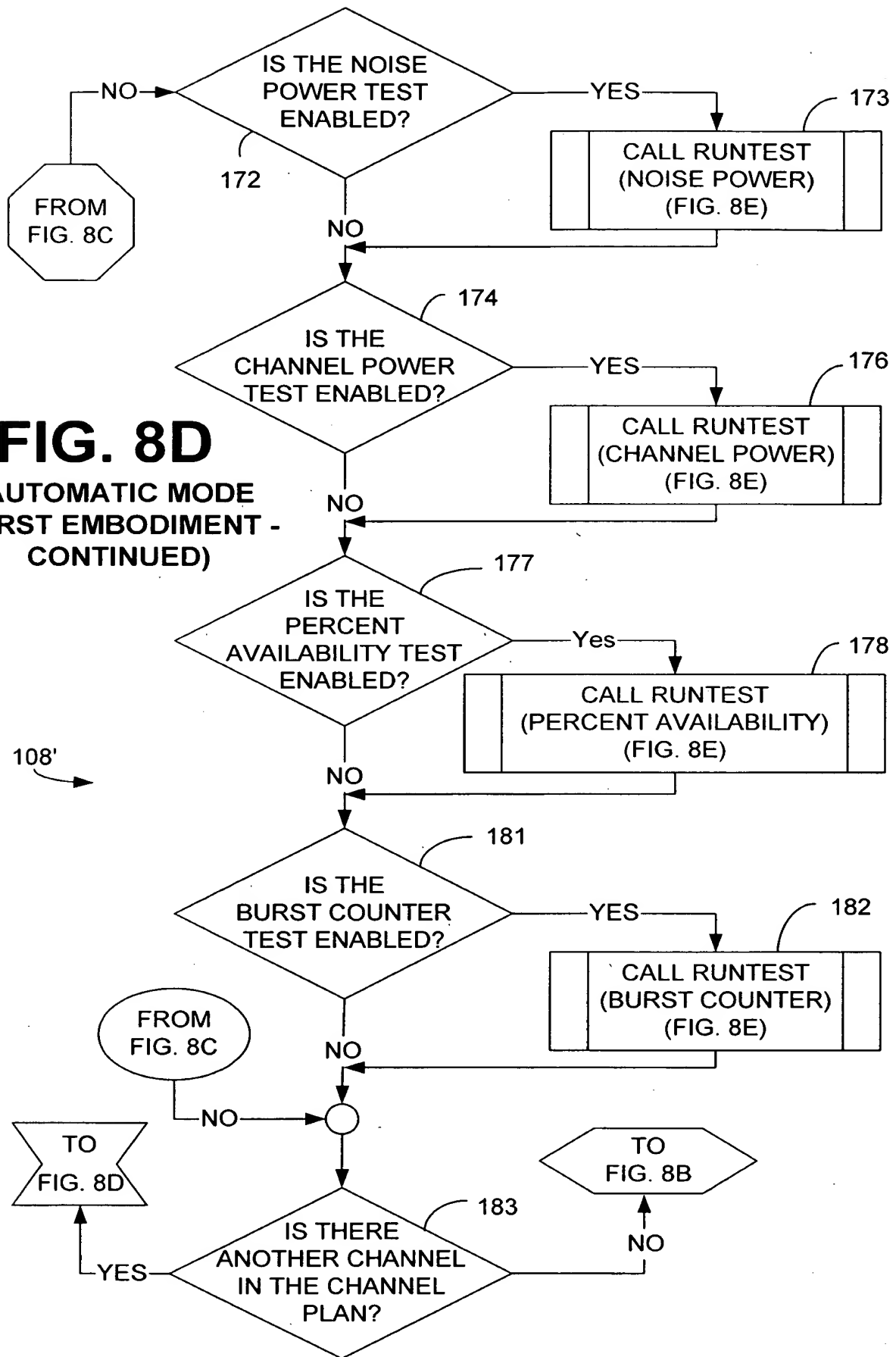
**FIG. 8B**

**AUTOMATIC MODE  
(FIRST EMBODIMENT - CONTINUED)**



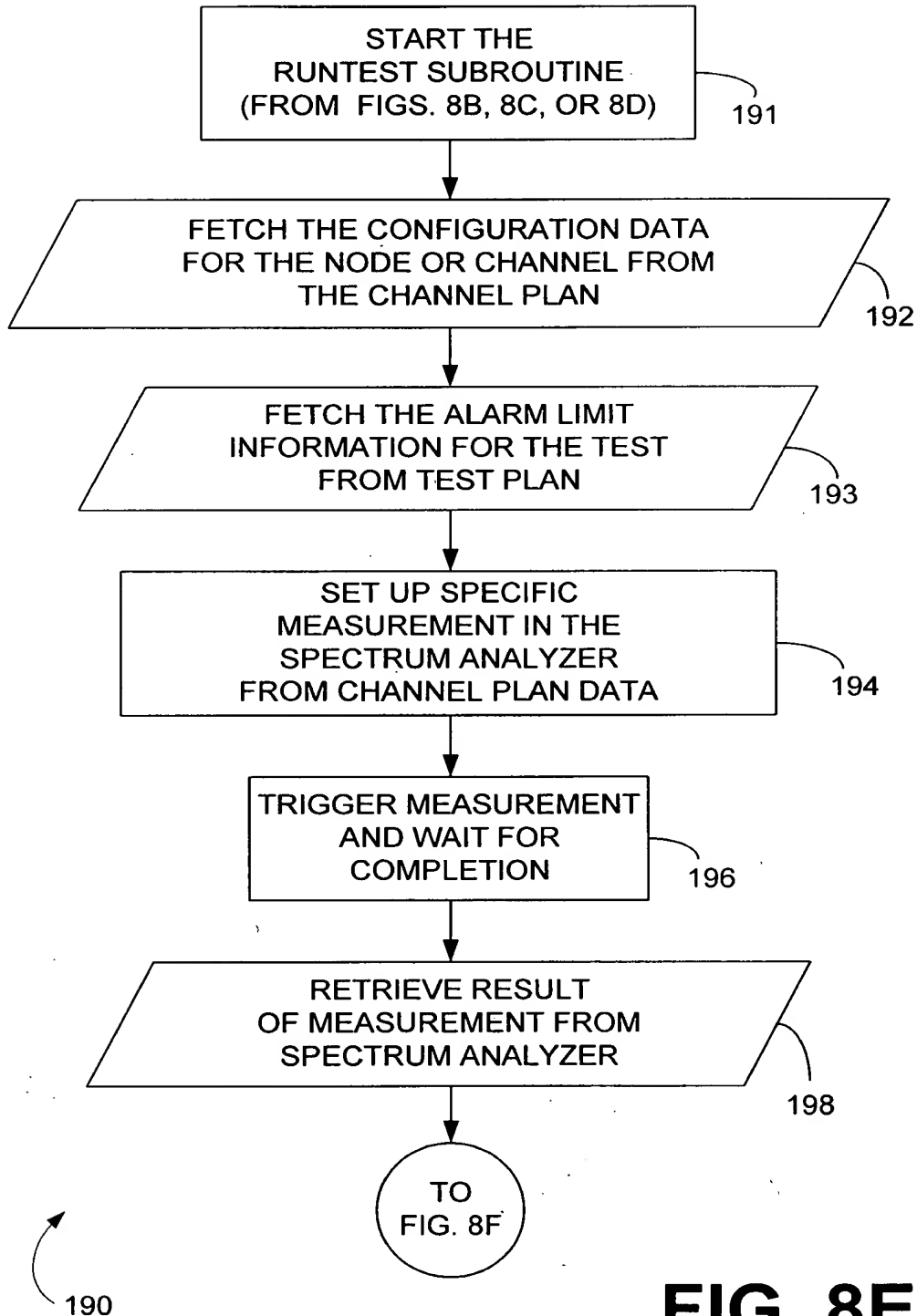
**FIG. 8C**

**FIG. 8D**  
AUTOMATIC MODE  
(FIRST EMBODIMENT -  
CONTINUED)



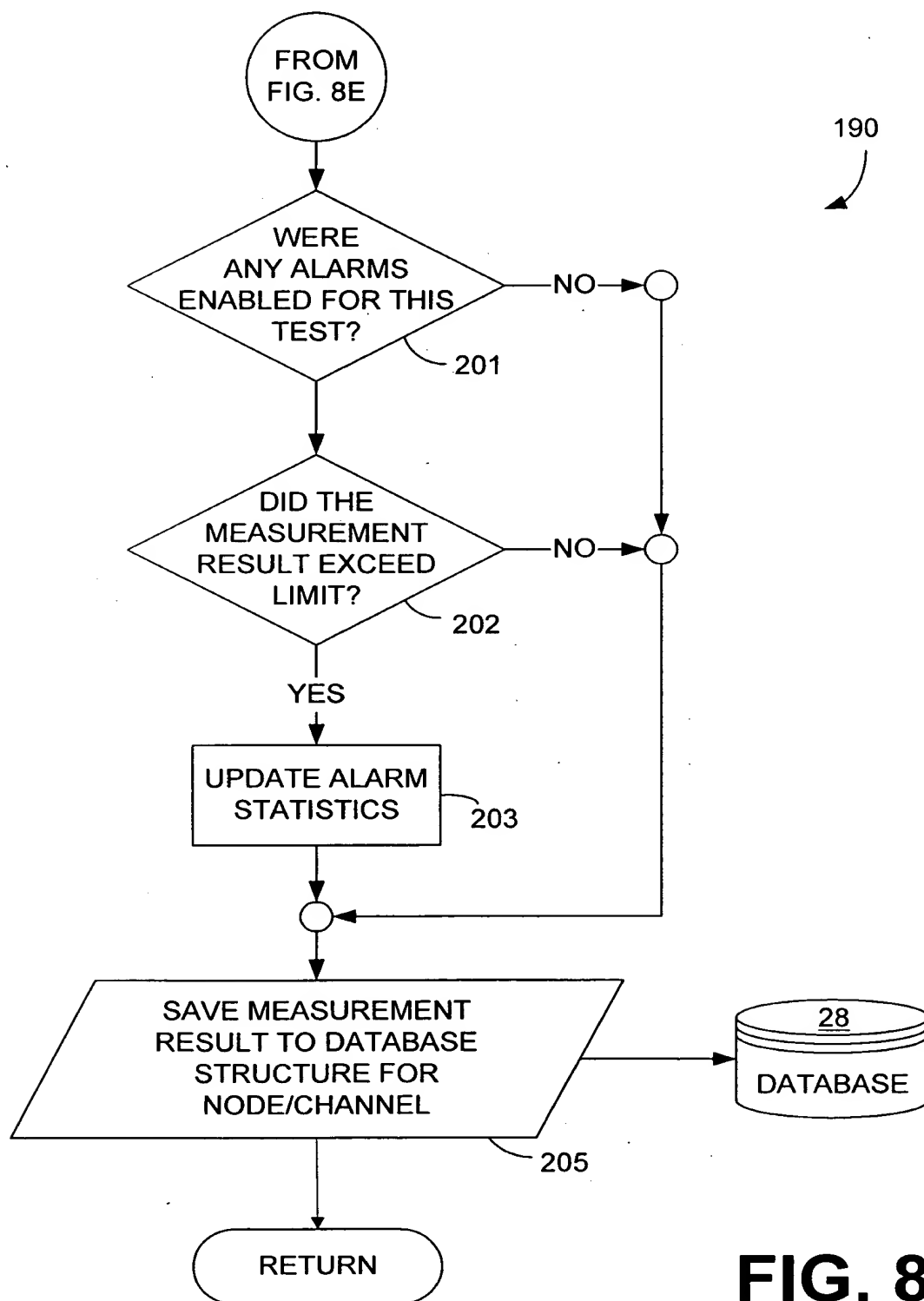
**AUTOMATIC MODE  
(FIRST EMBODIMENT - CONTINUED)**

**RUNTEST SUBROUTINE**



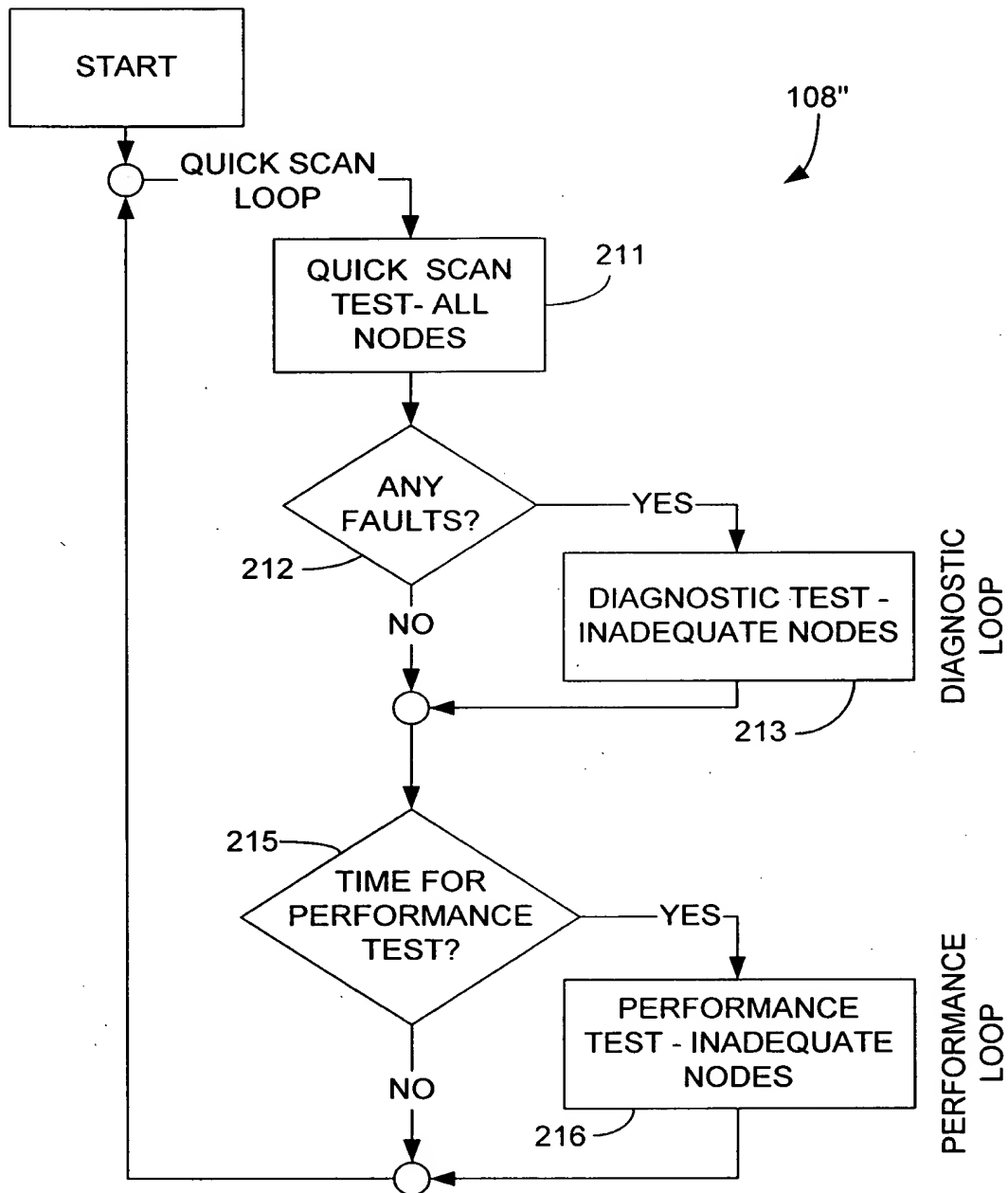
**FIG. 8E**

**AUTOMATIC MODE  
(FIRST EMBODIMENT - CONTINUED)**



**FIG. 8F**

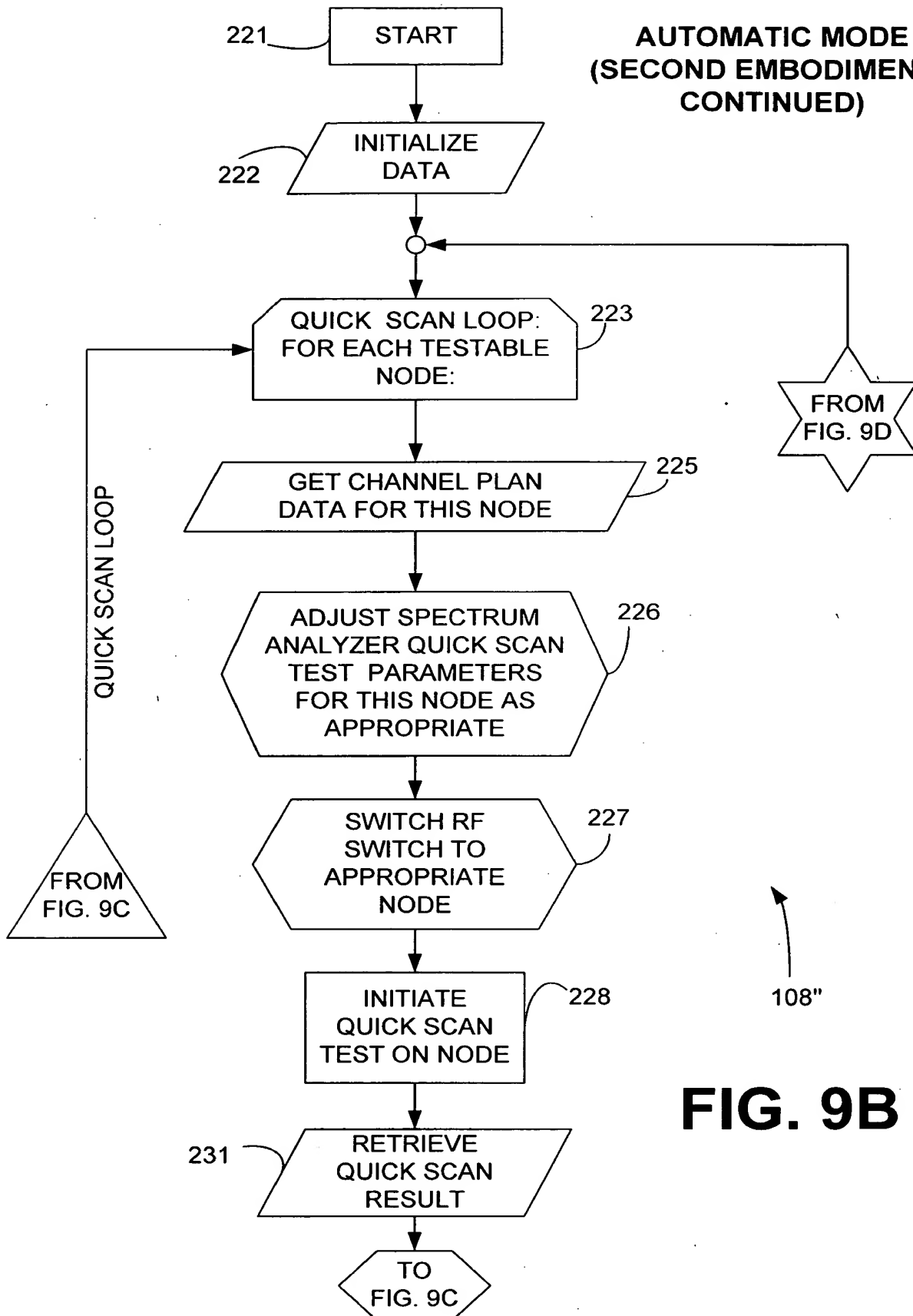
**AUTOMATIC MODE  
(SECOND EMBODIMENT; EMPLOYS SMART  
SCANNING ALGORITHM)**



**FIG. 9A**

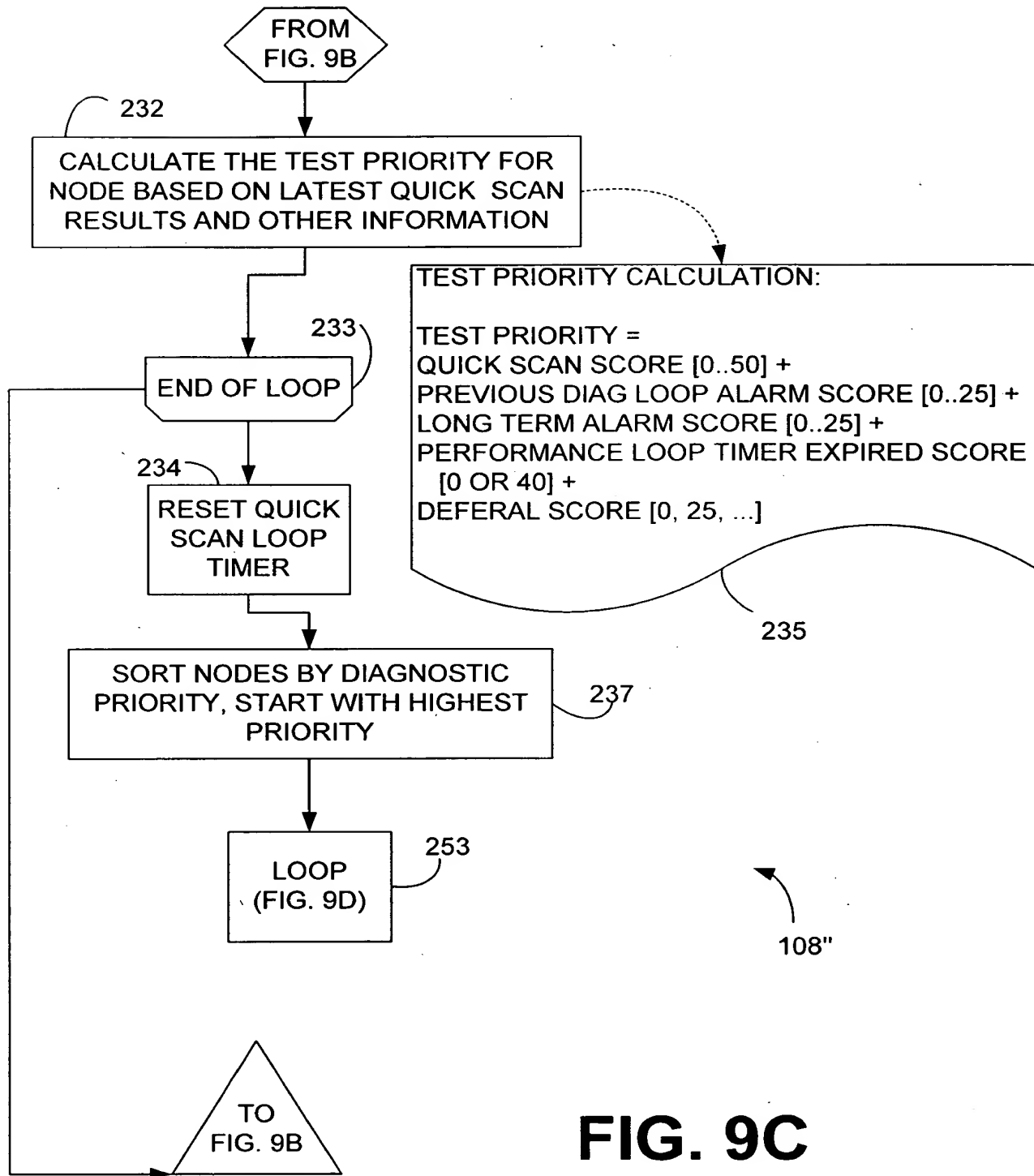


**AUTOMATIC MODE  
(SECOND EMBODIMENT -  
CONTINUED)**



**FIG. 9B**

**AUTOMATIC MODE  
(SECOND EMBODIMENT - CONTINUED)**

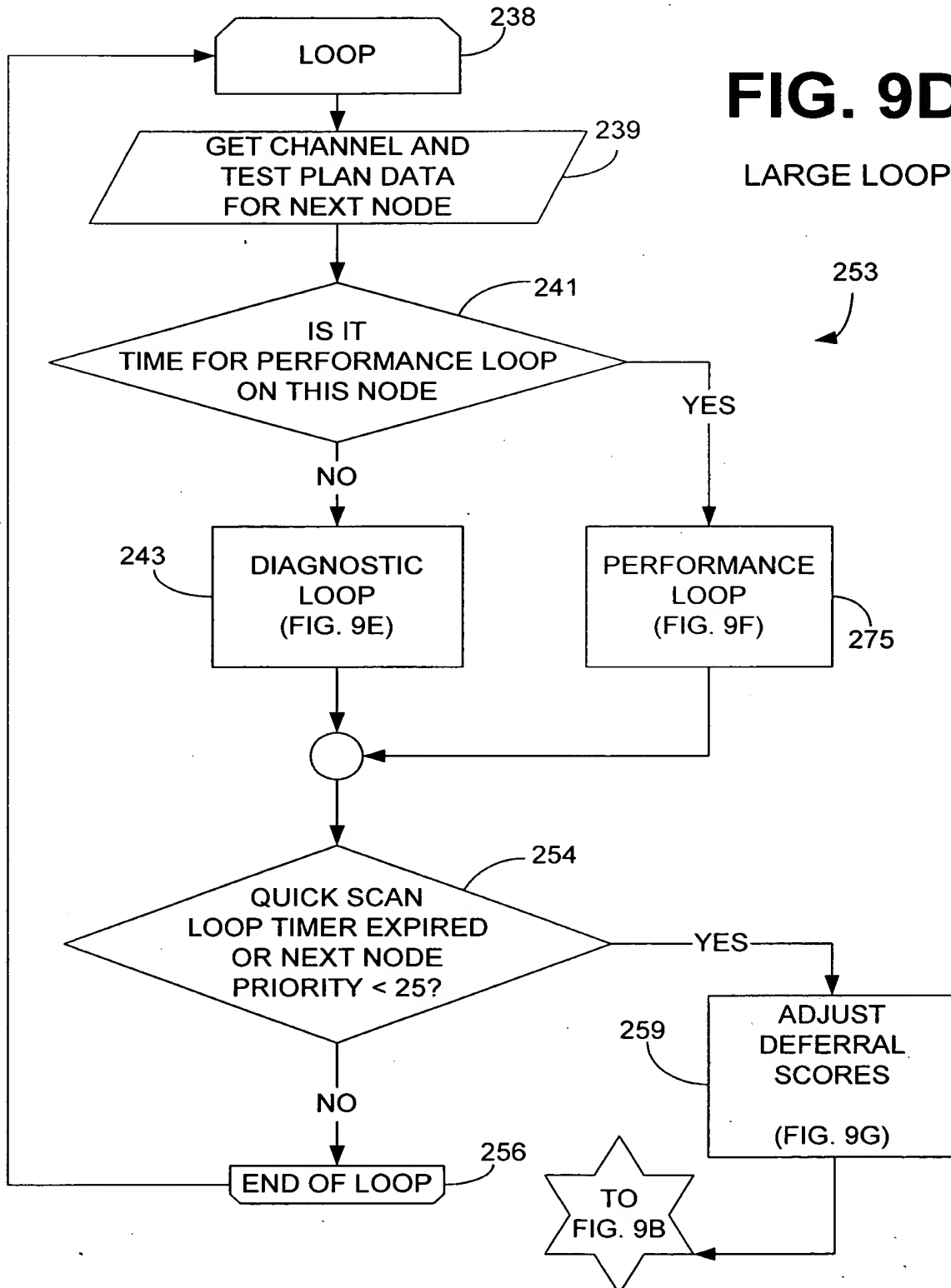


**FIG. 9C**

**AUTOMATIC MODE  
(SECOND EMBODIMENT - CONTINUED)**

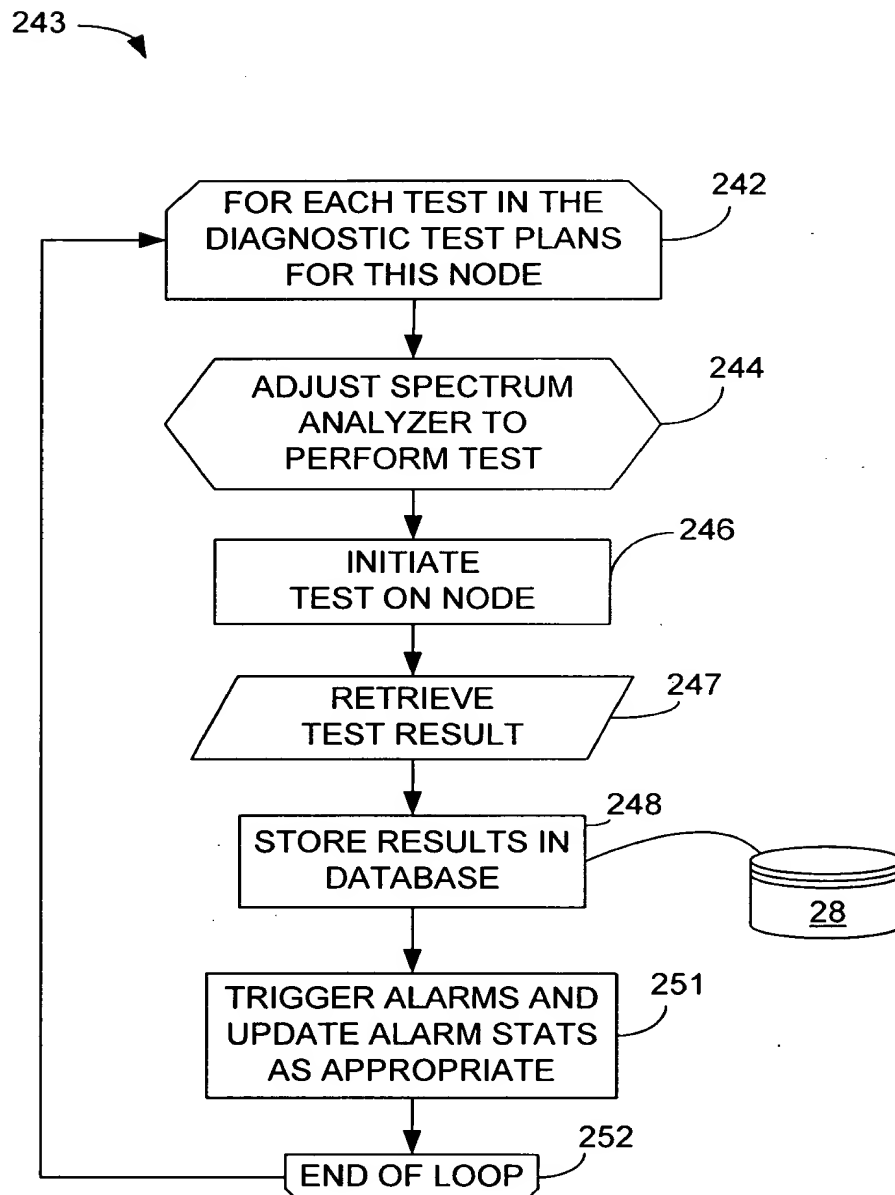
**FIG. 9D**

LARGE LOOP



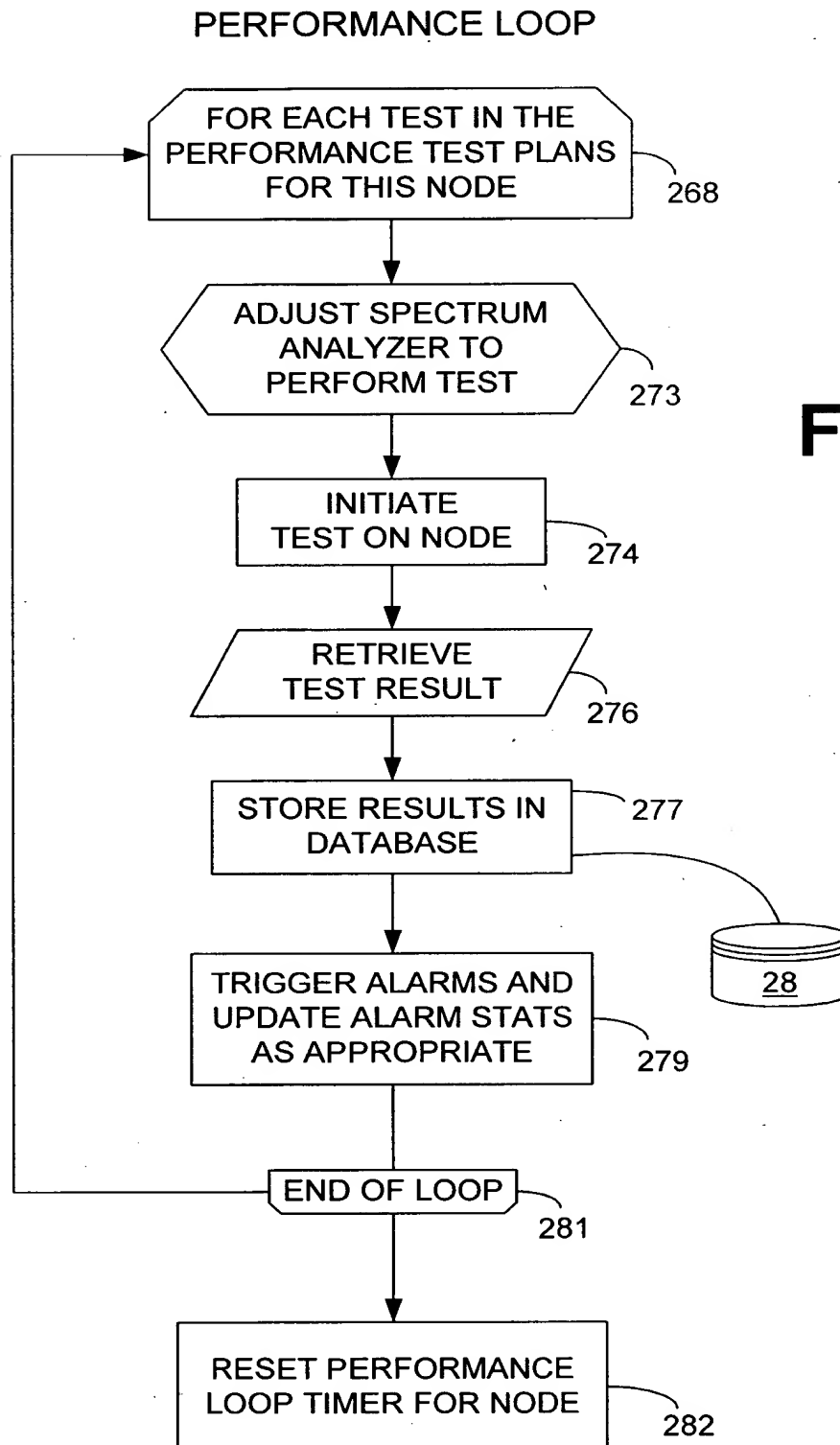
**AUTOMATIC MODE  
(SECOND EMBODIMENT - CONTINUED)**

**DIAGNOSTIC LOOP**



**FIG. 9E**

**AUTOMATIC MODE  
(SECOND EMBODIMENT - CONTINUED)**

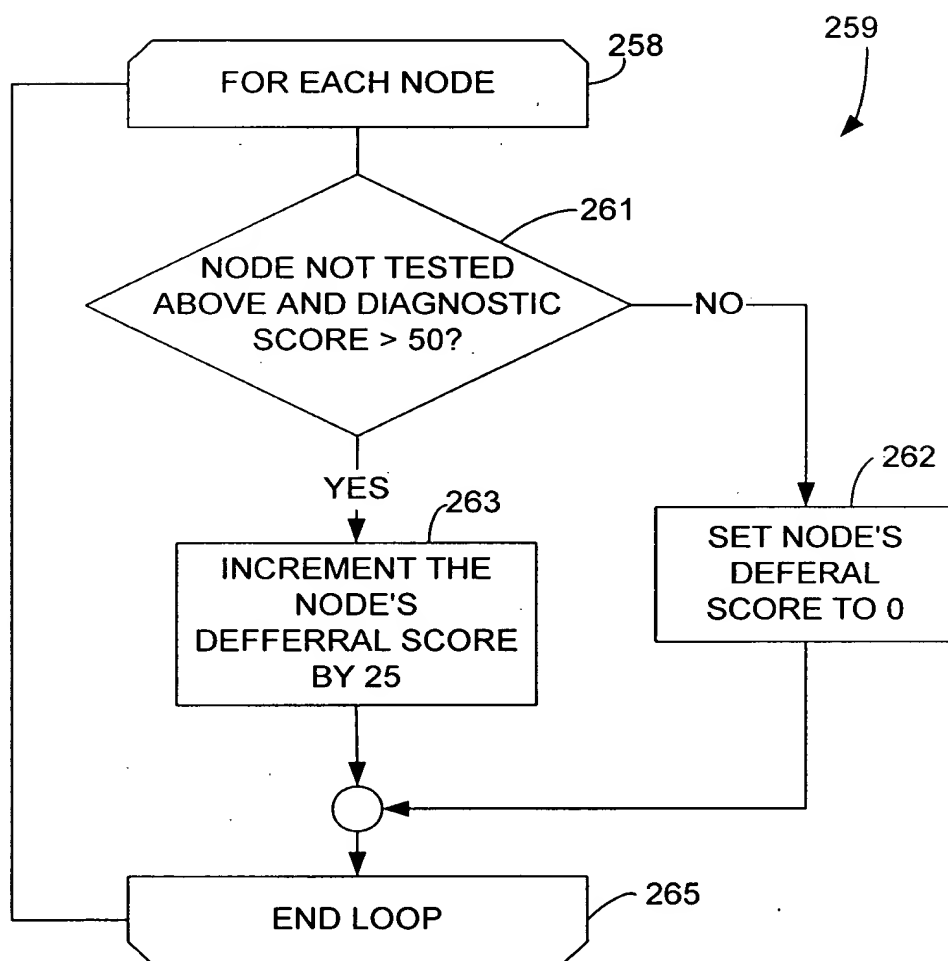


**FIG. 9F**

275  
↓

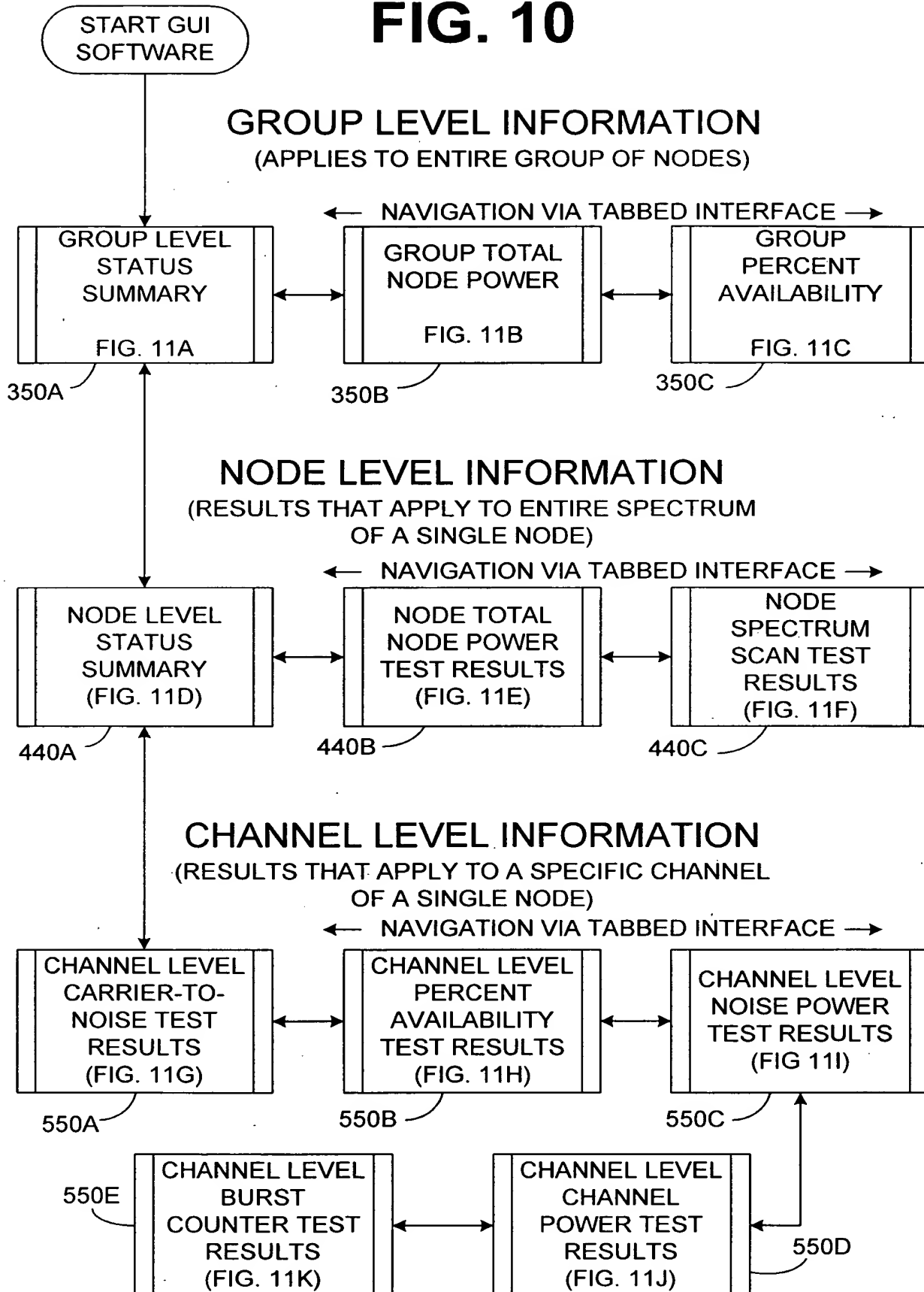
**AUTOMATIC MODE  
(SECOND EMBODIMENT - CONTINUED)**

**ADJUST DEFERRAL SCORES LOOP**



**FIG. 9G**

**FIG. 10**



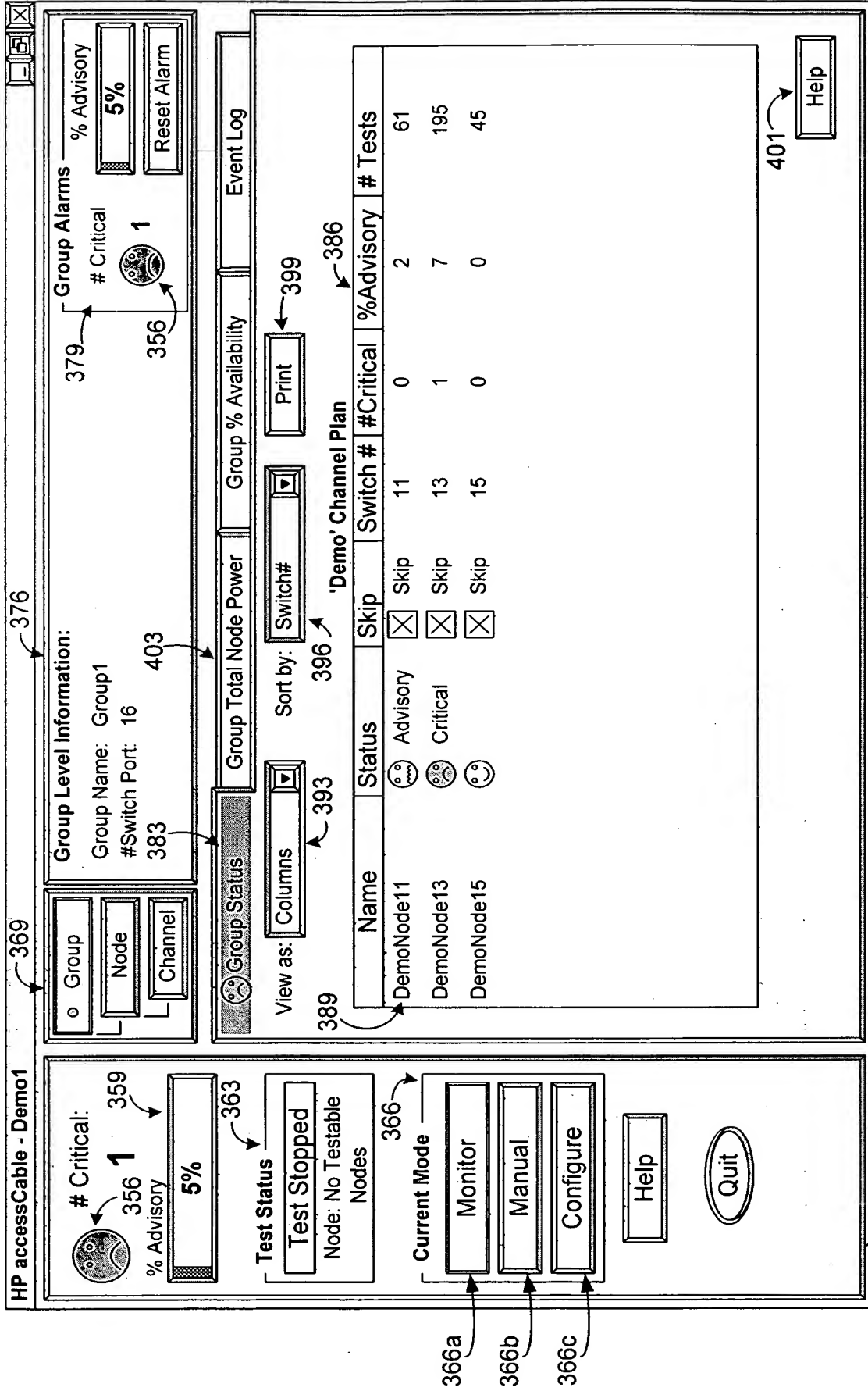


FIG. 11A



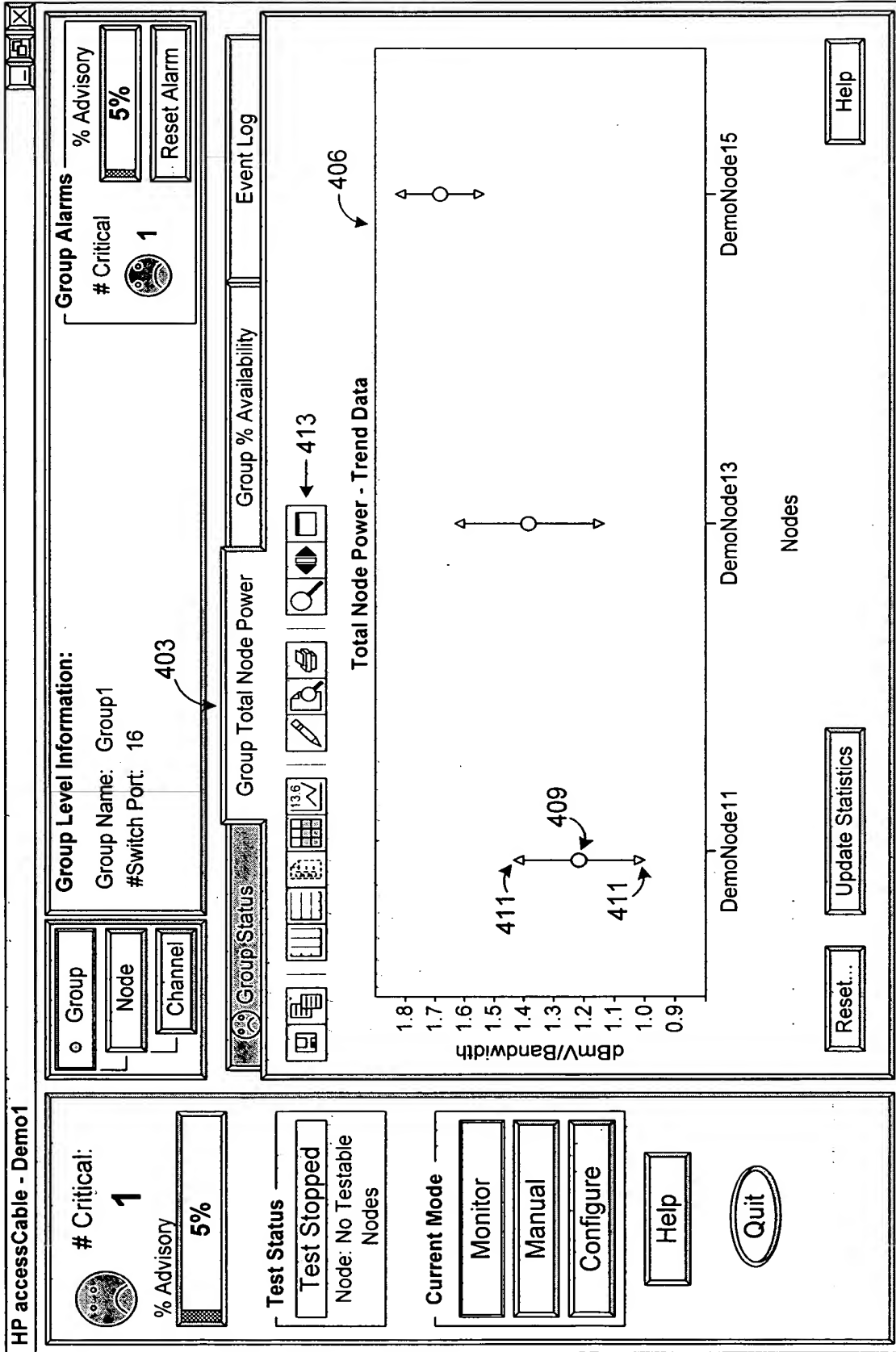


FIG. 11B

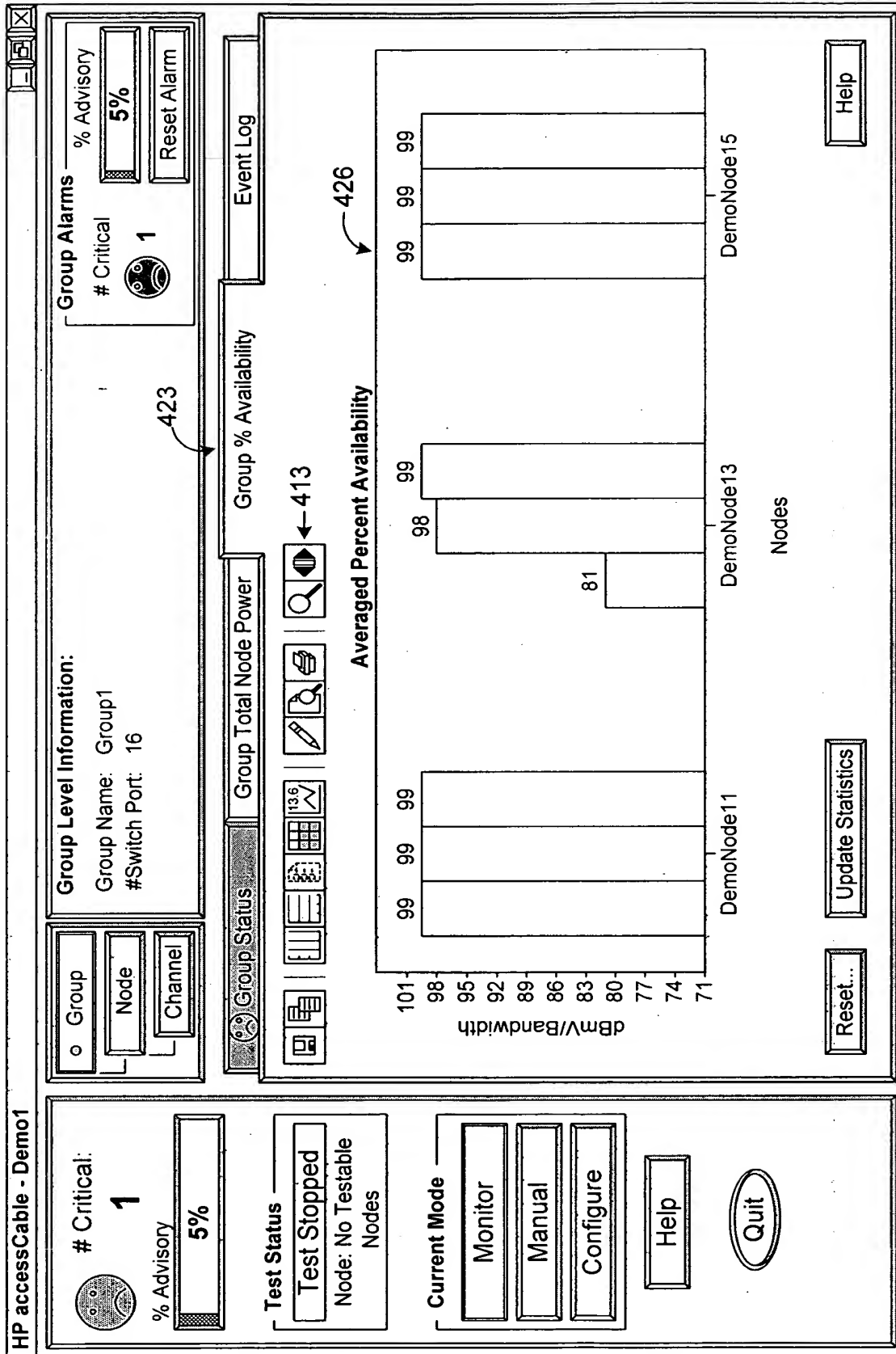


FIG. 11C

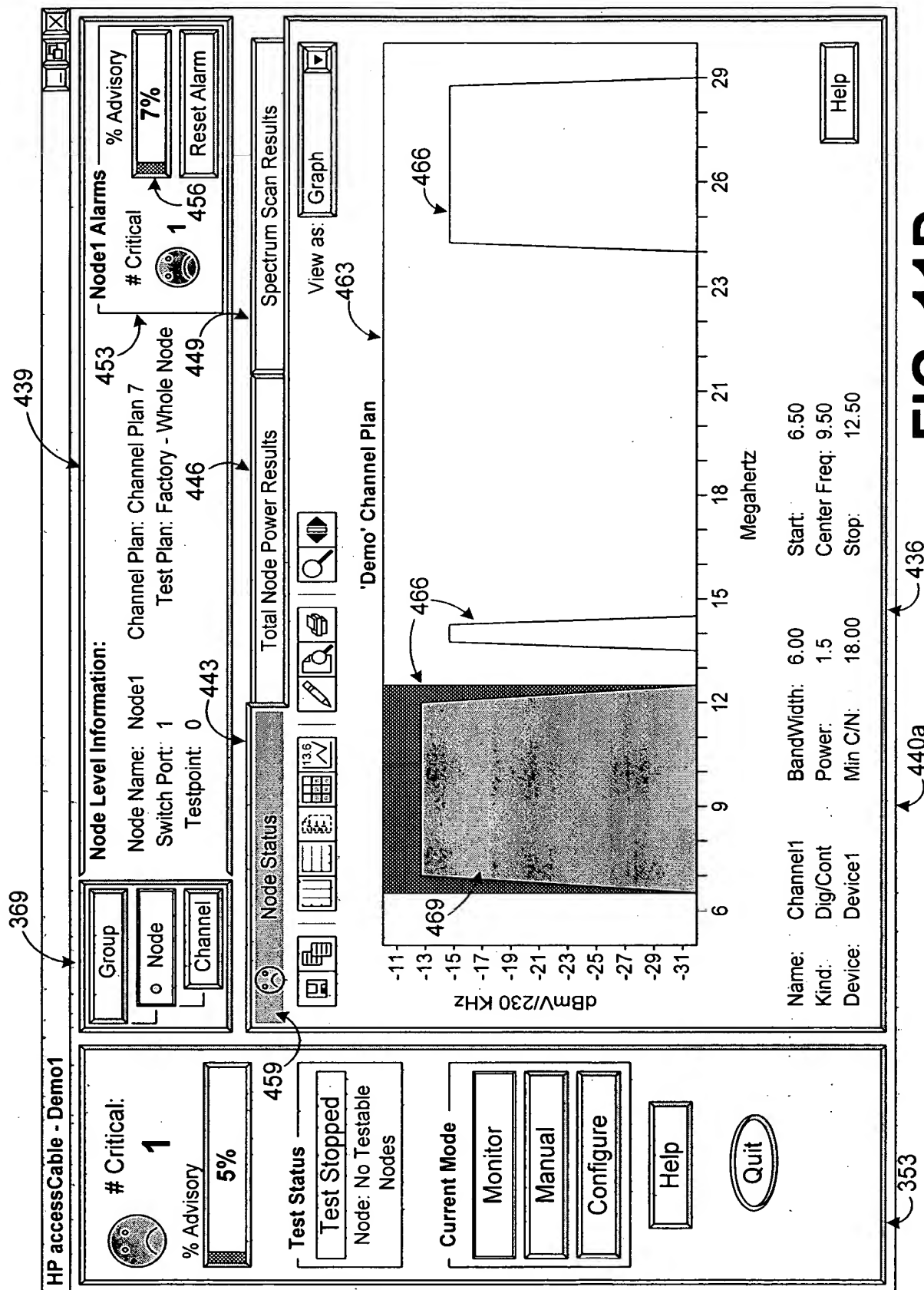


FIG. 11D

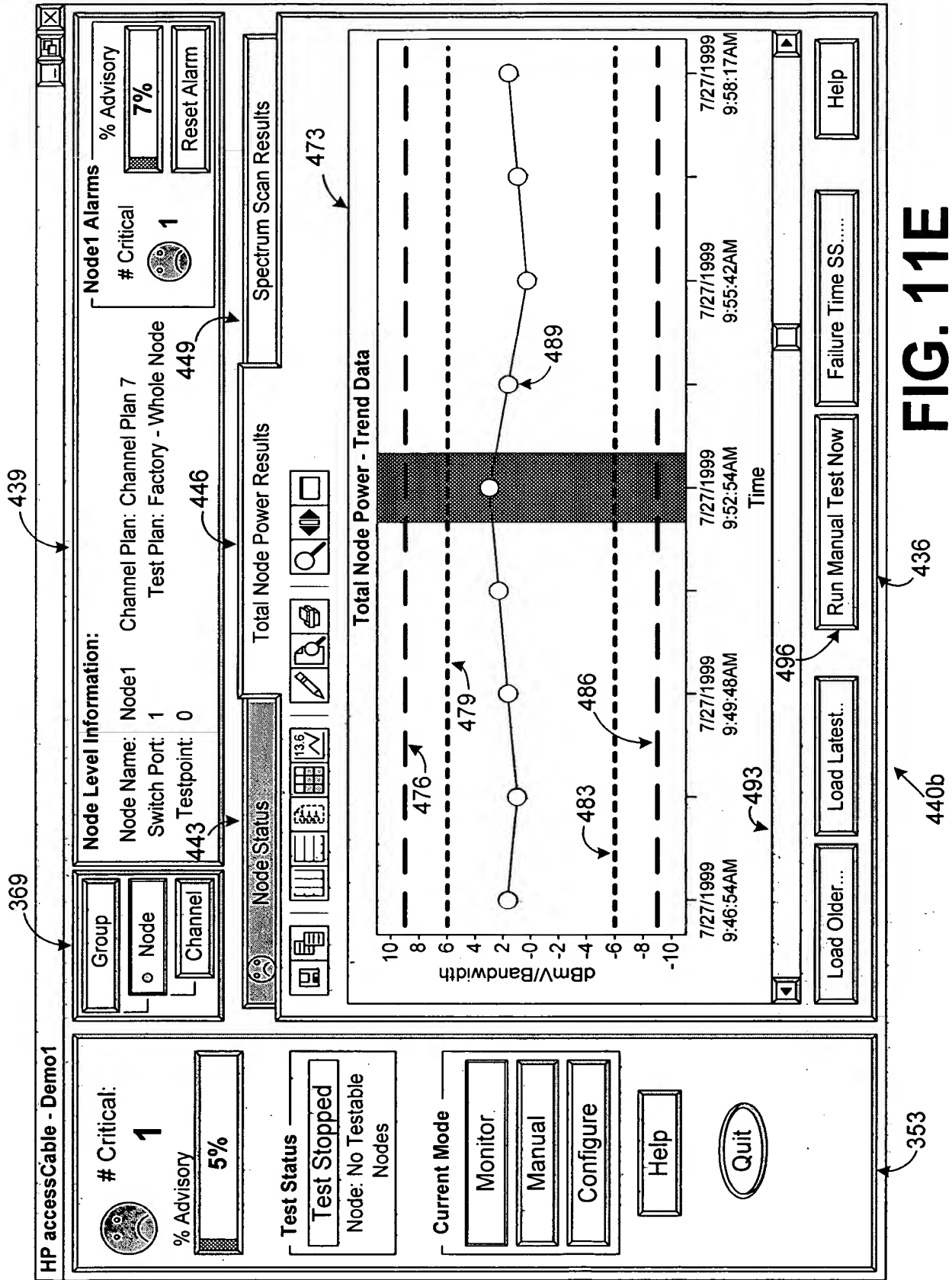


FIG. 11E

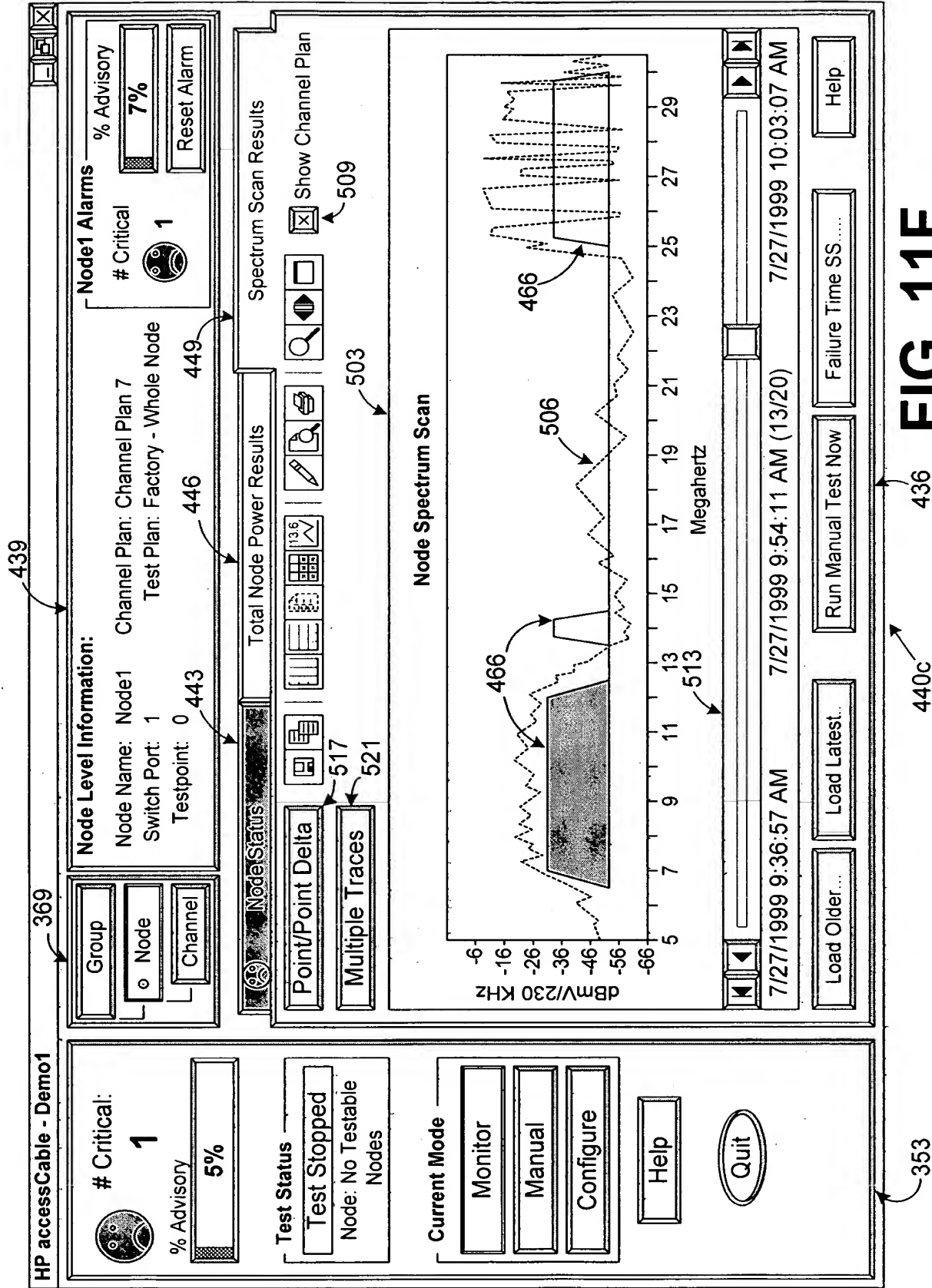


FIG. 11F

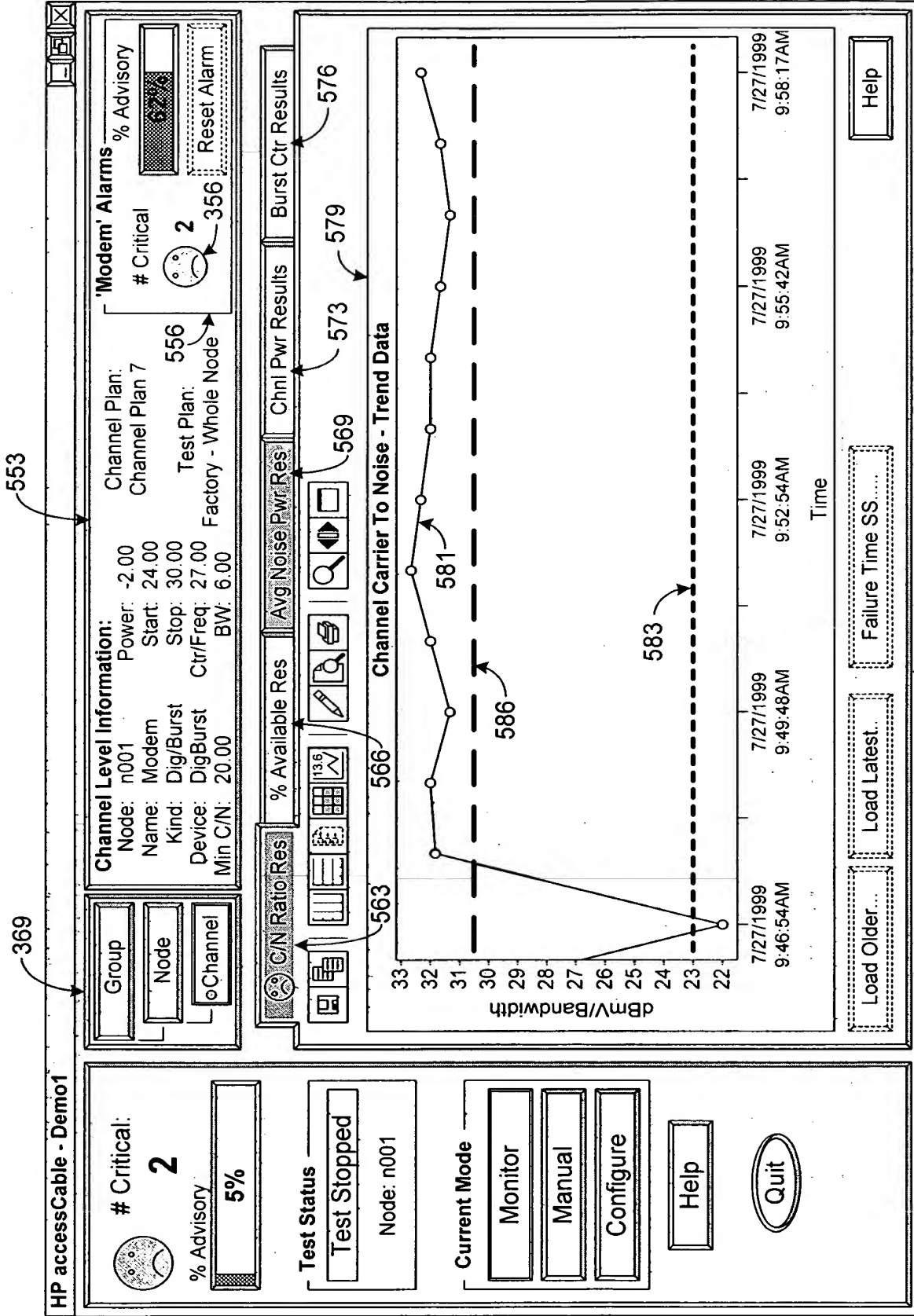


FIG. 11G

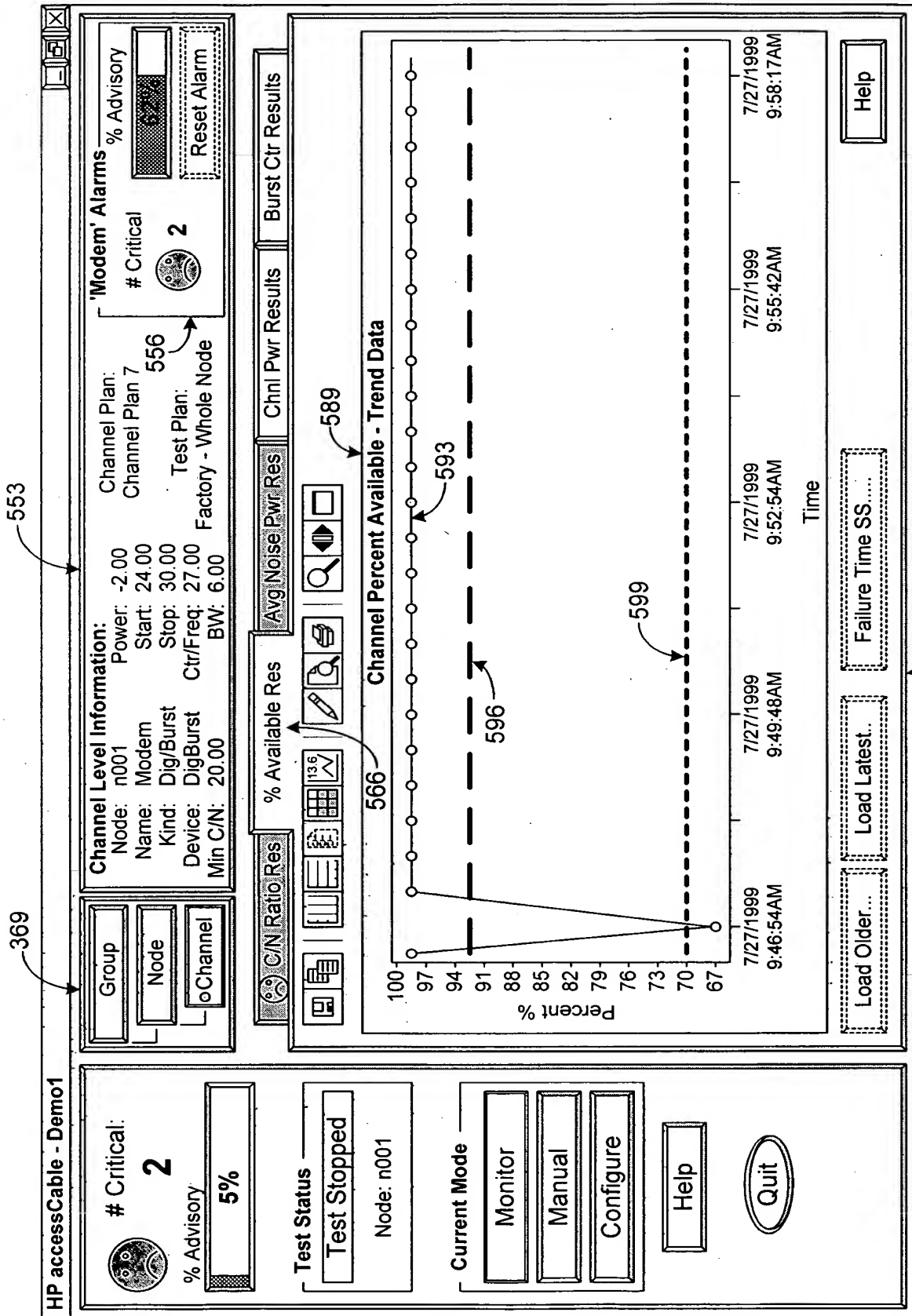


FIG. 11H

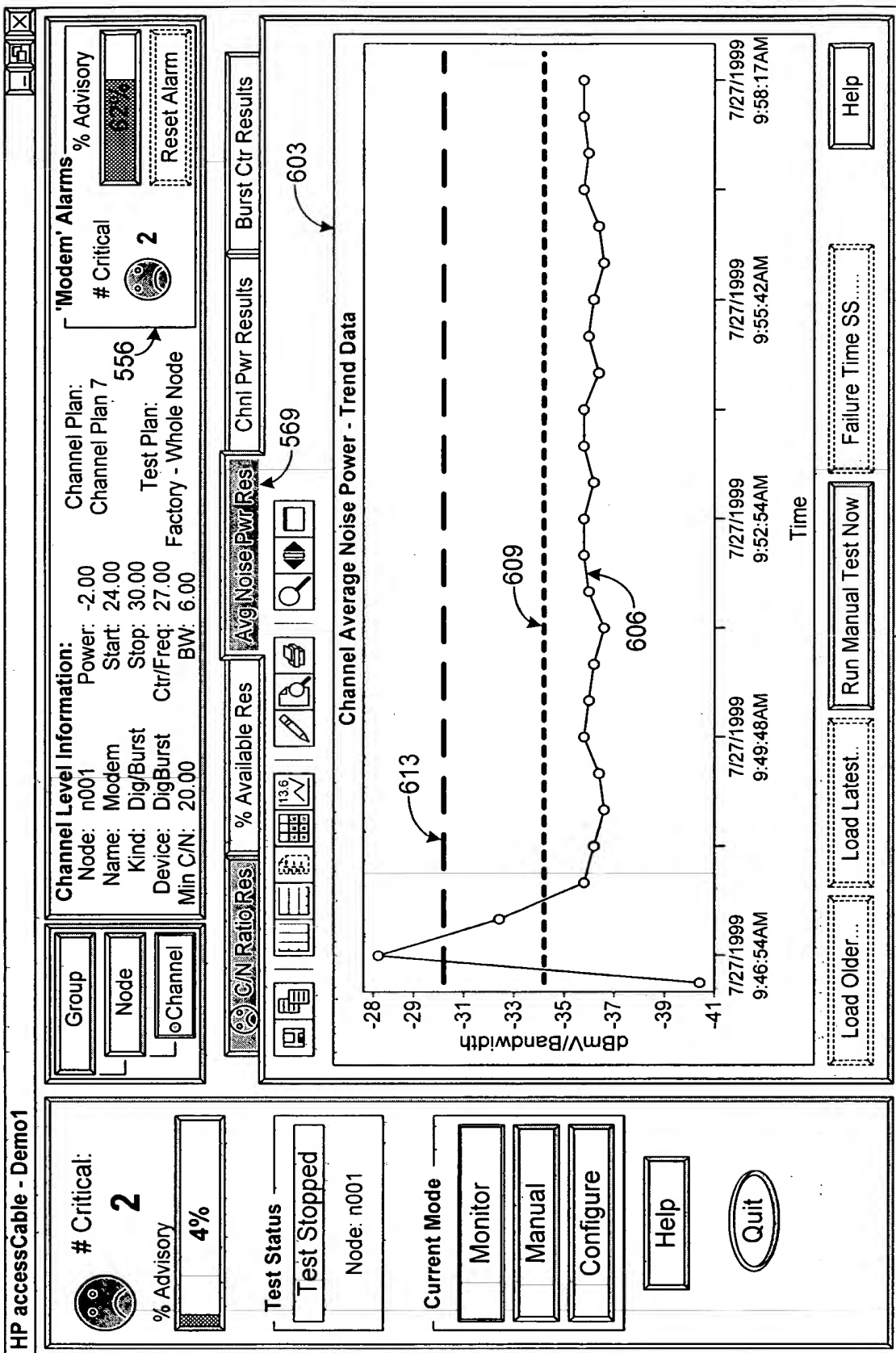


FIG. 111

550c



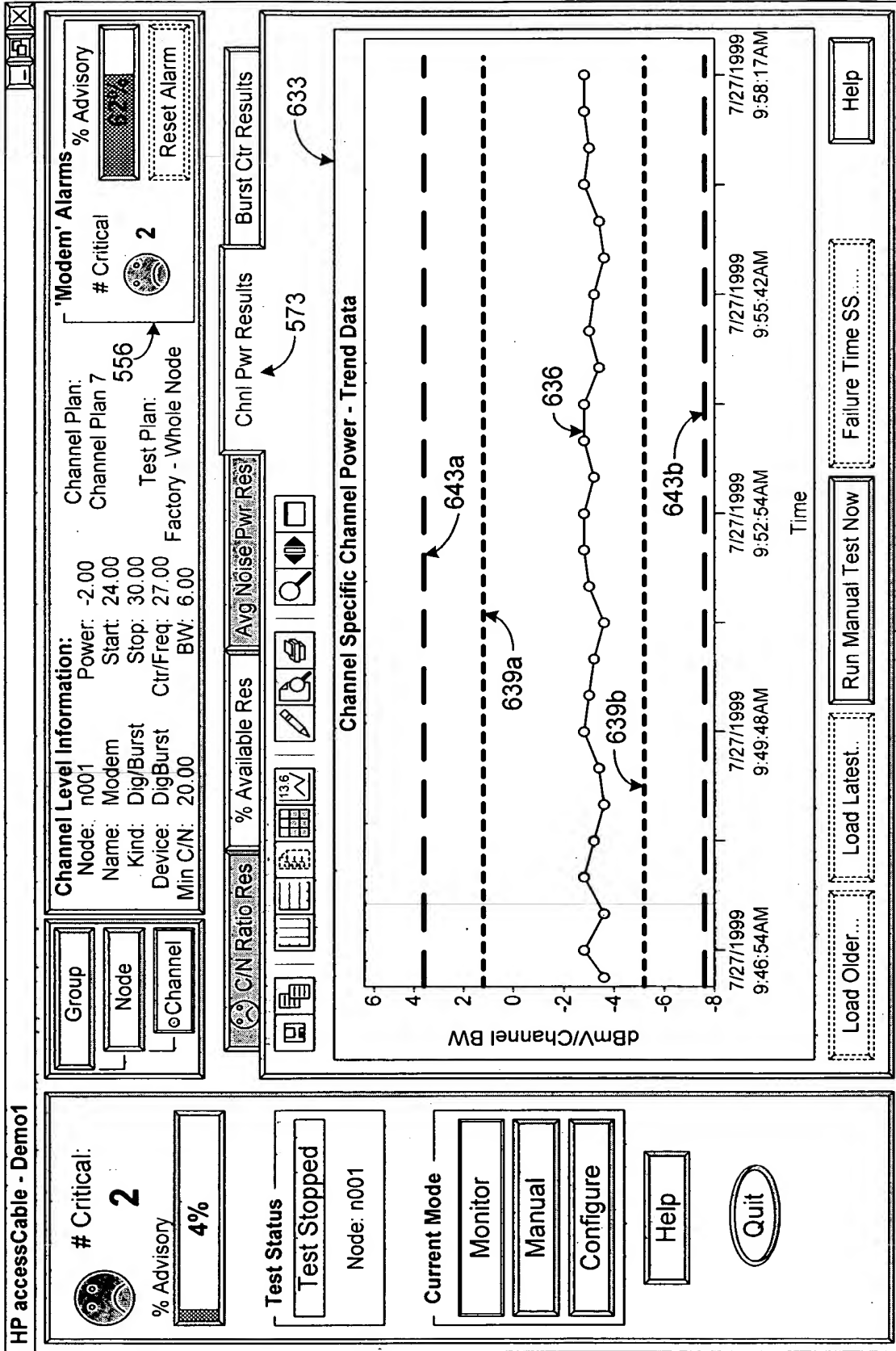


FIG. 11J

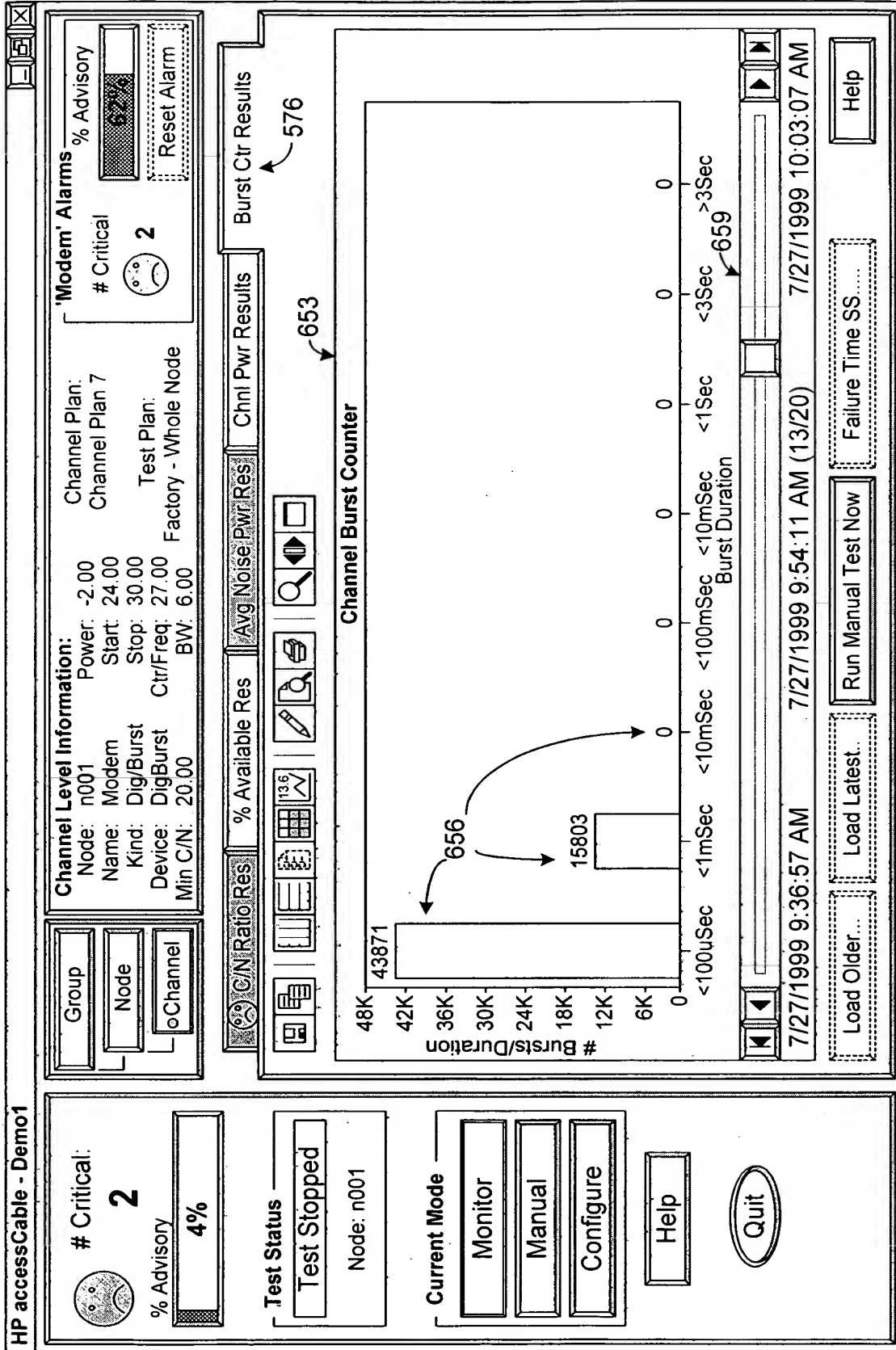


FIG. 11K

# TEST CONFIGURATION GUI NAVIGATION

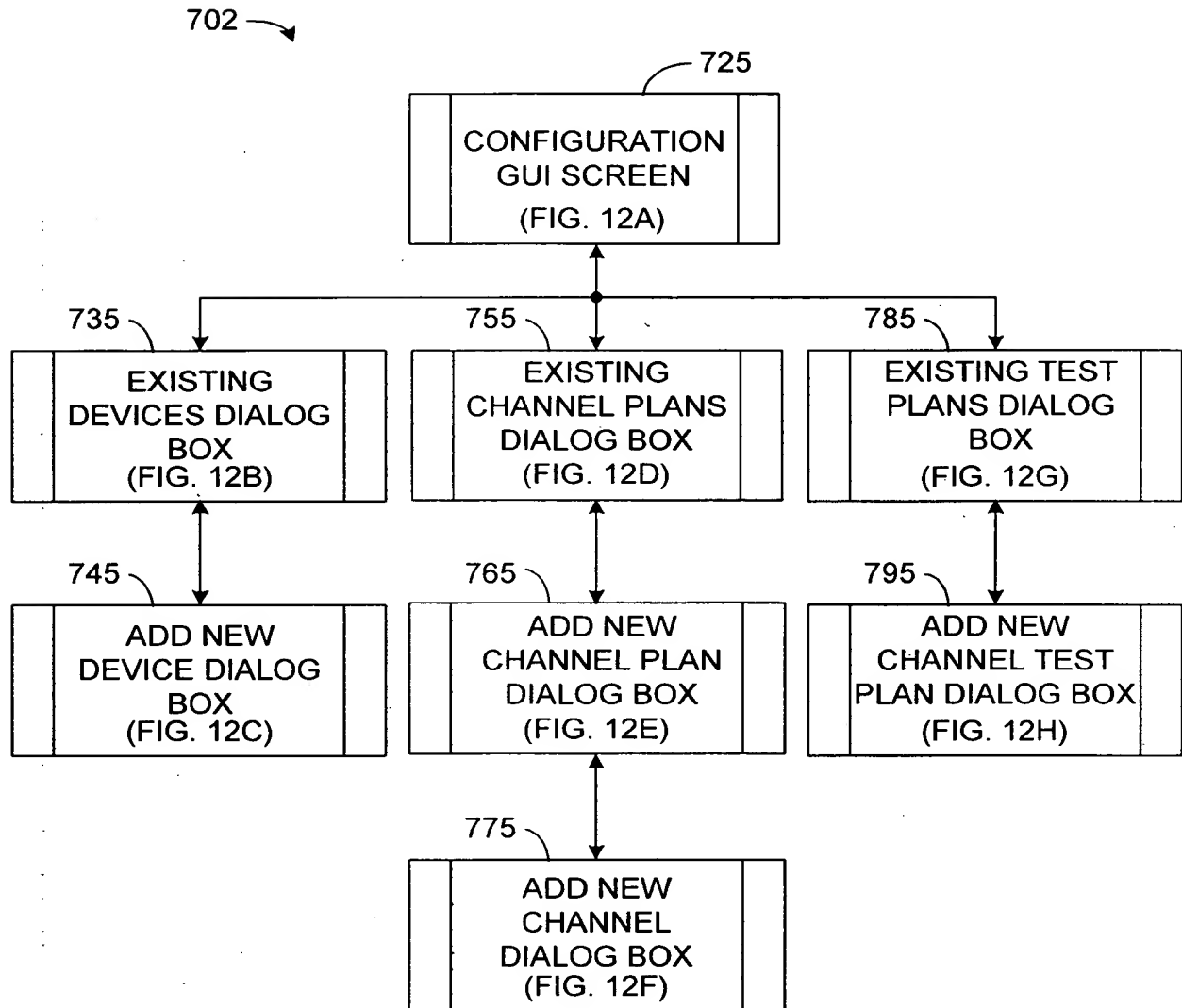


FIG. 12

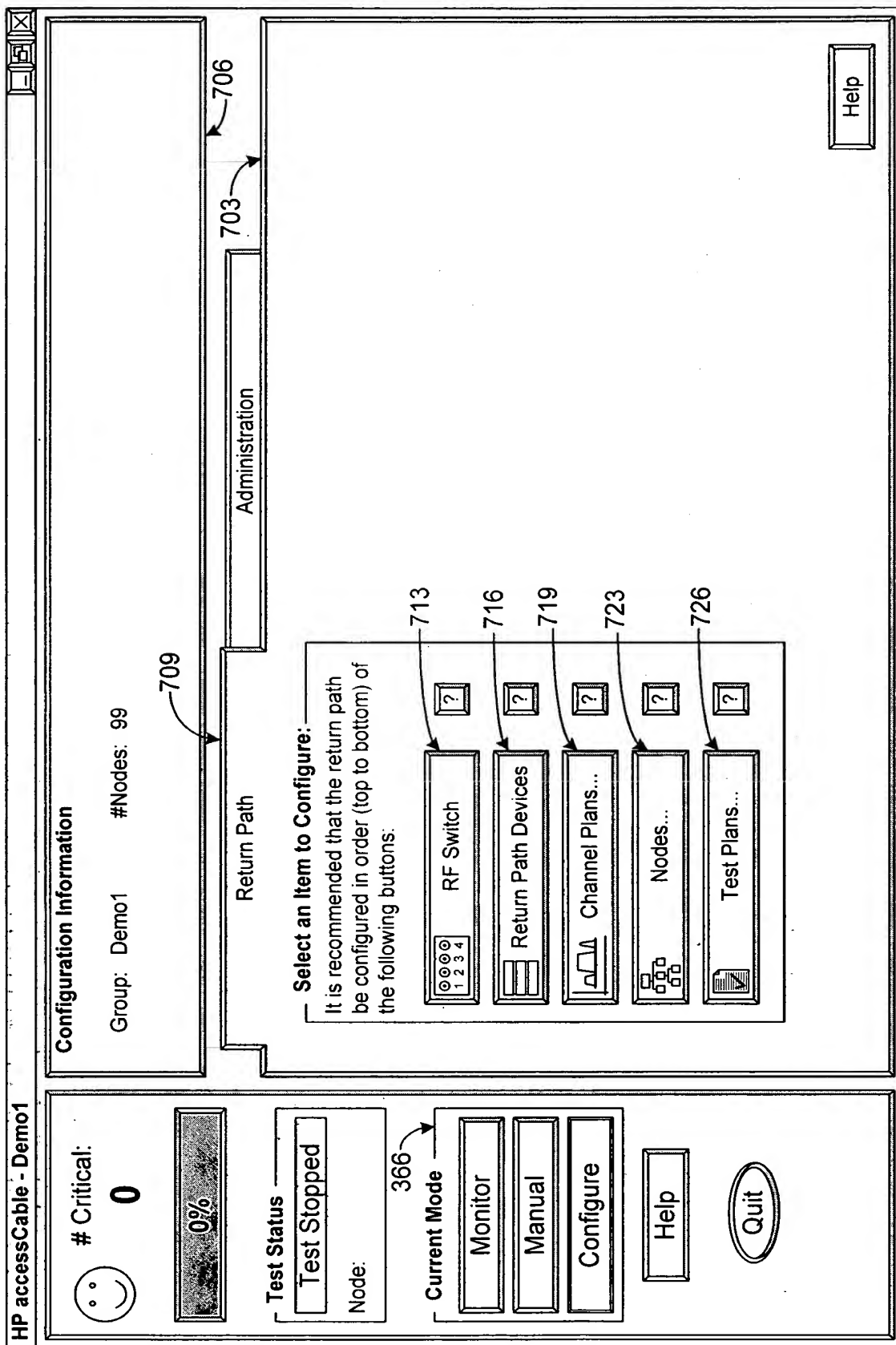


FIG. 12A

Existing Devices

Print...

Existing Devices

736

Name	Bandwidth (MHz)	Power (dB)	Min Op. C/N	Type	Comment
Modem	5.00	-2.00	20.00	Dig/Burst	

739

Add New...

Edit...

Delete...

Close

Help

FIG. 12B

**Add a New Device**

**Add A New Device**

**Device Attributes**

Device Name:  756

Comment:  759

Bandwidth:  ☒ MHz (0 - 999) ☐ KHz(0 - 999,999) 763 764

Channel Power:  (dBmV over Bandwidth) 776

Min Op. C/N:  (dB offset from Power) 769

Type:  773

776  779

753

**FIG. 12C**

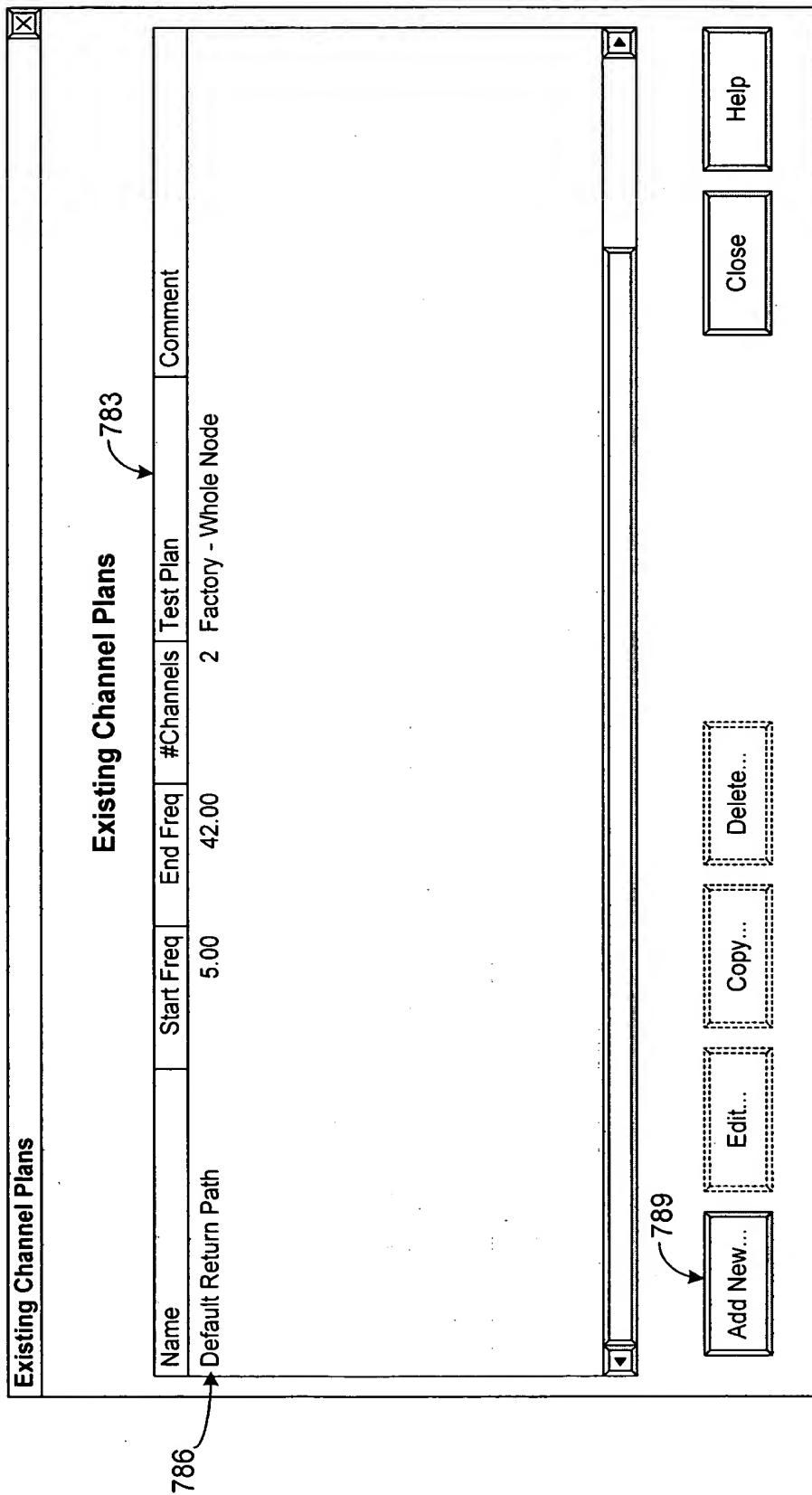


FIG. 12D

Channel Plan

Add a New Channel Plan

Channel Plan Attributes:

Device Name:

803

Whole Node

Test Plan:

Factory - Whole Node

Comment:

809

This is Channel Plan B

Return Path:

816

0

Start Freq (MHz):

819

5

Stop Freq (MHz):

42

999

Channels:

View as:

826

List

Sort By:

829

C-Freq

Print...

833

836

Name	Start Freq	Stop Freq	C-Freq	B-Width	Power	Min C/N	Device	CHKind	Test Plan

Add New...

Edit...

Copy...

Delete...

839

OK

Cancel

Help

823

800

FIG. 12E



**Add a New Channel**

**Add A New Channel**

**Channel Attributes**

Name:  853

**Center Frequency**

856 Cnt Freq (MHz)  5 42

☒ Values from a Device 863 Device:  859  
(Description)

☐ Values Specified Below

Bandwidth:  (MHz) 866 869

Channel Power:  (dBmV over Bandwidth) 873

Min Op. C/N:  (dB offset from Power) 876

Channel Type:

Test Plan:  879

881  883

**FIG. 12F**

850

Existing Test Plans

Print...

906

903

Name	Type	Node Pwr	SScan	Noise Pwr	Chan Pwr	Burst	C/N	% Avail
Factory - Analog Continuous Channel	Channel				X		X	X
Factory - Analog Intermittent Channel	Channel						X	X
Factory - Digital Burst Channel	Channel			X	X	X	X	X
Factory - Digital Burst FreqHopping Channel	Channel			X			X	X
Factory - Digital Continuous Channel	Channel				X		X	X
Factory - Digital Continuous FreqHopping...	Channel						X	X
Factory - Future Channel	Channel						X	X
Factory - Whole Node	Whole...	X	X					
No Tests	Channel							

909

911

913

900

Add New Whole Node Test Plan...

Add New Channel Test Plan...

Edit...

Copy...

Delete...

Close

Help

FIG. 12G

Add a New Channel Test Plan

Add A New Channel Test Plan

Test Plan Name:
Test Plan 27

☐ Disable All Critical Alarms

☐ Disable All Advisory Alarms

☒ Average Noise Power

Alarm limits are relative to expected channel power minus min op c/n for the channel.

☐ Critical

>

3

dB

☐ Advisory

>

3

dB

☒ Channel Power

Alarm limits are relative to expected channel power level.

☐ Critical

>

3

dB

or

☐

<

3

dB

☐ Advisory

>

3

dB

or

☐

<

3

dB

☒ Carrier to Noise

Alarm limits are relative to the channel's min op c/n level.

☐ Critical

>

3

dB

☐ Advisory

>

9

dB

☒ % Available

Alarm limits are absolute percentages.

☐ Critical

<

60

%

☐ Advisory

<

90

%

☒ Burst Counter

Alarm limits are not applicable.

☐ Critical

Not Alarmable

☐ Advisory

Not Alarmable

OK

Cancel

Help

925

FIG. 12H